Gleanings in Bee Culture

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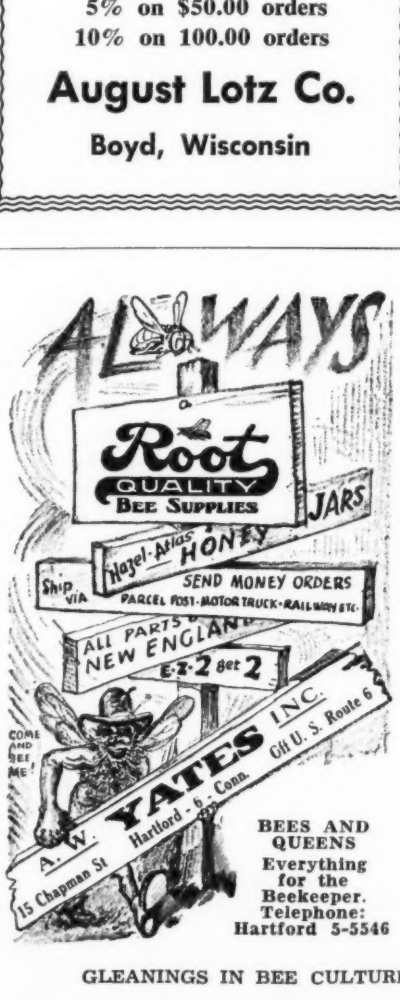

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Monthly HONEY Report

WALTER BARTH, Associate Editor

THE 1955 U. S. honey crop, produced by four per cent fewer bees than in 1954, is 12 per cent greater than last year according to reports from the U. S. Department of Agriculture. It is estimated at 243,100,000 pounds with an average colony production of 46.4 pounds. Sixty-two per cent of the crop came from California, Minnesota, Iowa, Wisconsin, Florida, Ohio, Texas, Michigan, New York and Indiana.

Sectional Reports

A fair to good fall flow was obtained in Rhode Island, New Hampshire and Massachusetts. Vermont reports bees in good condition with very little feeding necessary for winter. Prior to the heavy rains Connecticut and Maine reported bees working well on aster. Five pound pails of honey were bringing from $1.39 to $1.50 and wholesale purchases of white honey were going as high as 15 cents per pound in 60's.

The market in New York was good with wholesale lots of white honey in 60's getting 14 to 15 cents. Goldenrod yielded well in New Jersey but better weather is needed if bees are to get sufficient stores for winter. Bees in Pennsylvania are also filling up on wild asters, and if weather permits, should get sufficient stores to winter.

Lima Bean Flow Poor

The lima bean crop in Delaware was poor because of the late drought that produced a poor honey flow from this source. Here, as in Pennsylvania, comb honey brings from $8.40 to $10.00 per case. Virginia reports that brood chambers are well filled for winter.

Florida bees continue to be in good condition with a light nectar flow from smartweed mints, sesbania, partridge pea and other fall plants. They are also storing adequate amounts of pollen. Rainfall has been about normal with about two and one-half inches falling in the past month. If conditions remain the same, bees should be in good shape for wintering. White honey is bringing as high as 17 cents with the amber honeys close behind at 16 cents per pound.

After recent rains hopes are now high in Alabama for a late flow from white blooming weed. However, the picture is gloomy in Louisiana where feeding will be necessary to get bees ready for winter. There white honey in wholesale lots brings 16 cents with amber honey going for as low as 12 cents. Both Tennessee and Kentucky have a brighter outlook with bees in fair shape for winter. A late aster flow is in progress in some parts of Kentucky.

Bees are generally in good shape in Ohio and Indiana. In some areas the goldenrod failed for the rains came too late but an aster flow is helping the situation. The demand for honey is good in both of these states with the average wholesale price for honey settling at 15 cents. In Illinois the market is also strong.

Some feeding will be necessary in Michigan as some areas suffered from a summer drought. Wisconsin reports one of its biggest crops in years, and the same holds true for parts of Minnesota. The market is also holding firm in these states with white honey bringing from 13 to 14 cents per pound in wholesale lots.

Bees in Iowa are going into winter strong with plenty of good quality stores. Recent rains have brought back seedings and as a result honey plants are in good condition. The demand for honey has been good with prices strong. The crop in Iowa this year is top quality and one of the best that the state has ever experienced.

The condition of bees in Nebraska is about average so that some feeding may be necessary. In Kansas and Oklahoma the outlook is brighter.

Although the crop in Colorado was very light the bees are now in good shape for winter. In Arizona and Wyoming hives are also well filled for winter. In these states, and in California, the market is firm with alfalfa honey bringing 12½ to 13 cents. Amber brings 12 cents with comb honey about $7.50 per case.

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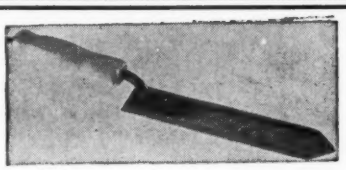

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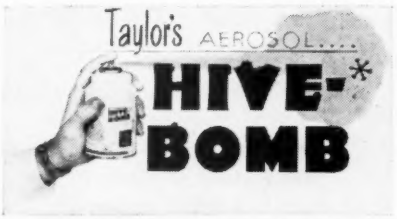

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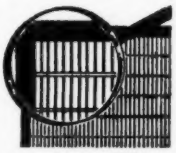

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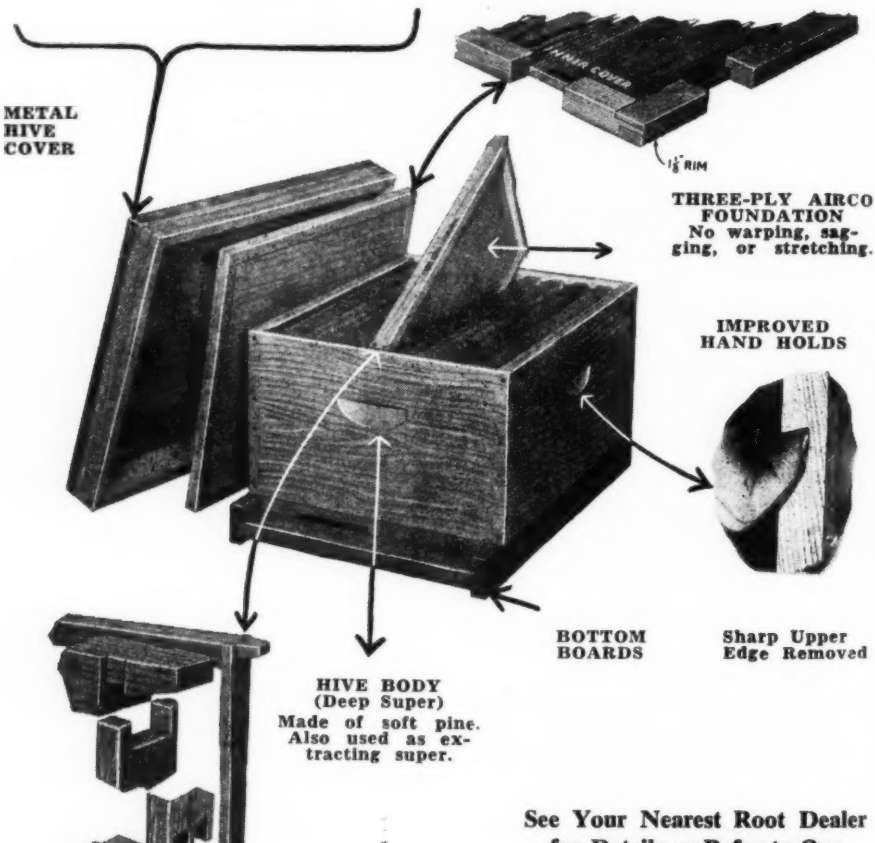

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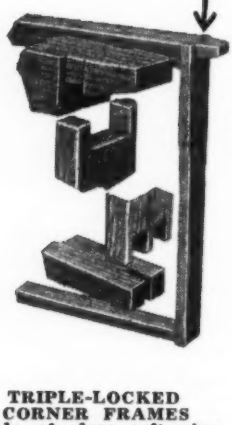

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The LAW of the HONEYBEE

Liability for Injuries by Bees

[Reprinted from the book "A Treatise on the Law Pertaining to the Honeybee," published by the Legal Department of the American Honey Producers' League, Colin P. Campbell. League has been replaced by the American Beekeeping Federation.]

ALL OF THE authorities make it clear that the true basis of liability for injuries done by bees is negligence on the part of the owner either in the location of the hives or in the manner of their manipulation.[1] Attempts have been made to impose a liability on the owner at all events for injuries done by his bees, but Judge Selden, in Earl v. Van Alstine,[2] made it so clear that there could not and should not be a liability at all events, and that the liability must depend upon negligence, that the Courts have very generally followed it. The contention was made in this case that, as bees are classed as ferae naturae for the purpose of ownership, they should also be so classed for the imposition of liability for injuries done by them. The learned Judge argued that this did not follow, for hares and doves were ferae naturae and yet no one would consider them so fierce as to impose liability on the owner without negligence on his part for injuries done by them.

This case, and Parsons v. Manser,[3] clearly indicate the effect upon decisions of the Judicial point of view. Judge Selden was evidently a lover of honey and probably of bees also. Judge Ladd who wrote the opinion of the court, in Parsons v. Manser, evidently harbored a grudge from childhood, although he follows the decision in Earl v. Van Alstine, for he says of bees: "Their disposition to make themselves felt is a matter of common observation from early childhood." Doubtless had Judge Ladd written in Earl v. Van Alstine, the rule would have been that the owner is liable absolutely for all injuries done by his bees on the ground of their inherent viciousness.

It appears from Tellier v. Pelland,[4] that in Quebec the Statute makes the owners of domestic animals liable for injuries done by them and in this case the Court holds bees come within that statute.

Since negligence, then, is to be the basis of liability, and since this means the failure to exercise the care of an ordinarily prudent person, we must examine those circumstances which may properly give rise to a charge of negligence, and this it may be said must arise either from the keeping of vicious bees with knowledge that they are vicious; from their location with reference to places where persons or animals which they are likely to injure have a right to be; or from improper and unreasonable manipulation of them.

Liability Based Upon Vicious Propensities

If negligence is sought to be based upon the fact that bees have a vicious nature it will be necessary for the plaintiff to show that the particular bees were generally vicious and that notice of that fact had been brought home to the owner.[5] The Courts are not prepared to hold that bees are generally vicious and that their owners are charged with notice of that fact, but take the opposite view, that their natural propensities are not vicious and require proof of viciousness, and notice thereof to the owner in each case. That is to say, that in case of injury by bees the plaintiff must show the bees to have been vicious, and in the habit of stinging persons and animals whenever opportunity offered; and further, that the owner had been informed of this propensity and had neglected to correct it or to remove the bees.

Liability Based Upon Location of the Hives

Since the owner of the bees has entire control of the location of their habitation, he is bound to exercise care in locating them so as not to cause injury to others. The maxim "So use your own as not to injure others" (Sic utere tuo ut alienum non loedas) applies. **It is negligence to locate the hives so near a place where persons or animals may be expected to be as to make it appear likely that the bees will be angered by their presence and attack them.** Thus it has been held negligence to locate the hives near a post in a highway used for tying the horses of visitors to the owner's premises,[6] to locate a large number of hives (about 140) on the narrow confines of a village lot,[7] or so near the line of another's premises as to endanger horses working in a field harvesting grain between the hives and a buckwheat field.[8]

In Parsons v. Manser, plaintiff intending to visit defendant's premises on a lawful errand, tied his horses to a post in the highway, in plain view, and but a few feet from two hives of bees. The bees stung the horses, which in trying to free themselves upset the hives. The horses were so badly stung that they died. The Court held that it was negligence to locate the hives in such a place. Defendant had heard his daughter warn another not to tie horses to the post. The post had been set there to tie horses to and the hives were within 25 feet of it.

In Olmstead v. Rich, defendants located a large number of colonies (about 140) on a village lot. Plaintiff, an adjoining owner, complained, citing stings and the spotting of clothes. It was held that the bees were a nuisance and their keeping at that place was enjoined.

In Lucas v. Pettit, it was shown that defendant's bees were near the plaintiff's line, and that in passing to and from a field of buckwheat they passed over a field of oats belonging to plaintiff who claimed they stung his horses while he was harvesting his oats and made them run away. Defendant was held liable on the ground that the location was negligence. To the like effect is Tellier v. Pelland, where plaintiff's horse on his adjoining premises was stung by defendant's bees, so that he died.

Liability in all of these cases could have been avoided by a location with reference to the habits of bees and the use of adjoining premises. It may be that this observation does not apply to Lucas v. Pettit for it is difficult for one who knows bee behavior to entirely reconcile the facts in that case. The bees were 76 feet from the field of oats and a building 17 feet high intervened.

Liability Based Upon Improper or Unseasonable Manipulation

It is negligence to handle bees at such a time or in such a manner as will likely cause them to attack persons or animals in the neighborhood. Thus where defendant undertook to remove the honey from his hives by smoking the bees from the supers a few yards from where plaintiff was hitching his horse to a cart without warning him, it was held defendant was liable when the bees stung the horse causing him to bolt and injure plaintiff so that he died therefrom pending the action.[9]

One cannot read this case without arriving at the conclusion that there was bad feeling between the parties before the occurences which gave rise to the action, and that defendant began manipulating his bees to harass and annoy plaintiff. They were close neighbors, small farmers, and defendant's hives were but a few yards from the place where plaintiff was accustomed to hitch and unhitch his horses. While he was engaged in hitching, defendant began to drive his bees from a super with smoke and the inevitable happened.

Remedies for Injuries Done by Bees

Generally speaking, one whose property or person is injured by bees, under circumstances making the owner liable, may proceed by action for damages,[10] but may not proceed by an action in Trespass quare clausum fregit, as for a trespass by breaking and entering another's premises, even though the bees did the injury on the premises of the plaintiff and not on the premises of their owner.[11]

When the action is for damages, that sum will be awarded which will compensate the plaintiff for the injury suffered. For example, if a horse be killed the measure of damages is its value. If plaintiff's premises are rendered less habitable by reason of bees kept in the neighborhood, the measure of damages would be the decrease, if any, in the value of plaintiff's premises.

There is another remedy sometimes made use of, when injuries are sustained by persons living on premises adjoining where the bees are kept, on the theory that the keeping of bees under the particular circumstances is a nuisance. If such keeping constitutes a nuisance under the facts of the particular case the Court may forbid the owner to keep them there and may compel their removal.[12]

Whether the bees are a nuisance or not depends upon proof, and the burden is on the plaintiff to show that they are, in the particular case. There is no presumption against the bee. The proof must convict her.

Same Subject—Public Remedies

There can be little doubt that, if the keeping of bees under the particular circumstances is a nuisance, it would be a violation of a statute or an ordinance forbidding the maintenance of a nuisance, but this would depend entirely upon the circumstances of the particular case, and a municipality may not by general ordinance forbid the keeping of bees within its limits.[13] No city may declare that a nuisance which is not a nuisance under any and all circumstances within its limits. An ordinance which would undertake to define the keeping of bees as a nuisance would be too broad. **Whether the keeping of bees in a city is a nuisance depends upon each particular case, and is a question to be judicially determined in each case.**

Thus it may be concluded that if, in a particular case, the keeping of bees in a city or village is a nuisance, such keeping would be a violation of an ordinance forbidding the maintenance of a nuisance; but a city may not declare the keeping of bees within its limits to be a nuisance, since whether it is or is not a nuisance depends upon the particular circumstances, their location, their disposition and the manner in which they are handled.

[1]Earl v. Van Alstine (1850) 8 Barb. (N. Y.) 630; Tellier v. Pelland (1873) 5 Rev. Legale (Que.) 61; Olmstead v. Rich (1889) 3 Silv. Sup. (N. Y.) 826, 6 N. Y. Supp. 826; Petey Mfg. Co. v. Dryden (1904) 5 Penn. (Del.) 166, 62 Atl. Rep. 1056; O'Gorman v. O'Gorman (1903) 2 Irish Rep. 573; Parsons v. Manser (1903) 119 Ia. 88, 93 NW Rep. 86, 62 L. R. A. 132; Lucas v. Pettit (1906) 12 Ont. L. Rep. 448, 97 Am. St. Rep. 283.
[2]8 Barb. (N. Y.) 630.
[3]119 Ia. 88, 93 NW Rep. 86, 62 L. R. A. 132, 97 Am. St. Rep. 283.
[4]5 Rev. Leg. (Que.) 61.
[5]Earl v. Van Alstine (1850) 8 Barb. (N. Y.) 630; Petey Mfg. Co. v. Dryden (1904) 5 Penn. (Del.) 166, 62 Atl. Rep. 1056.
[6]Parsons v. Manser (1903) 119 Ia. 88, 93 NW. 86, 62 L. R. A. 132, 97 Am. St. Rep. 283.
[7]Olmstead v. Rich (1889) 3 Silv. (N. Y.) 826, 6 N. Y. Sup. 826.
[8]Lucas v. Pettit (1906) 12 Ont. L. Rep. 448, 8 Ontario Weekly Notes 315; Tellier v. Pelland (1873) 5 Rev. Leg. (Que.) 61.
[9]O'Gorman v. O'Gorman (1902) 2 Irish Rep. 573.
[10]Earl v. Van Alstine (1850) 8 Barb. (N. Y.) 630; Parsons v. Manser (1903) 119 Ia. 88, 93 N. W. Rep. 86, 62 L. R. A. 132 97 Am. St. Rep. 283.
[11]Petey Mfg. Co. v. Dryden (1904) 5 Penn. (Del.) 166, 62 Atl. Rep. 1056.
[12]Olmstead v. Rich (1889) 3 Silv. (N. Y.) 826, 6 N. Y. Supp. 826.
[13]Arkadelphia v. Clark (1899) 52 Ark. 23, 11 S. W. Rep. 957, 20 Am. St. Rep. 154.

"Gosh, it's a robber fly!"

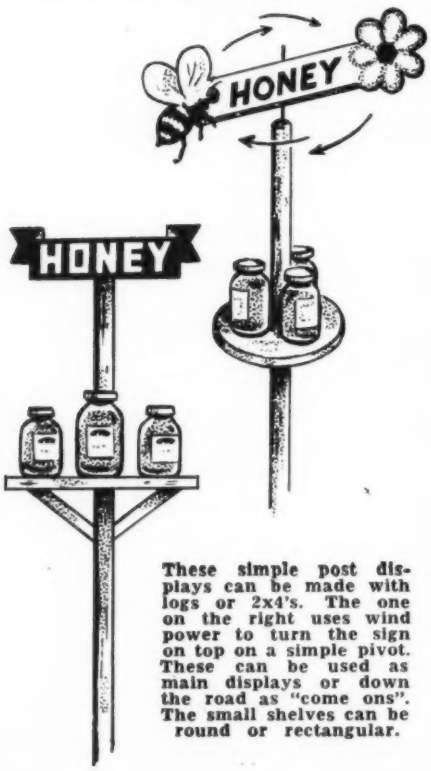
Make Your Own HONEY DISPLAY STAND

VICTOR R. STEPHEN, Staff Artist, Pennsylvania State College of Agriculture

ONE WAY to sell more honey is to display it better. Today, as in the past, much honey is sold by the roadside and most sales are made to people who just happen to be driving by. You have to get them to stop before you can sell them your product. The best way to let these people know what you're selling and make them stop and buy honey is to show it in attractive, colorful, and eye-catching arrangements. A few jars of honey stuck on fence posts or sitting on an old kitchen chair doesn't have much "stop appeal". Beekeepers take great pains to produce clear, sweet-tasting honey, and yet seldom give a thought to displaying it in a way that will attract buyers.

EASY TO MAKE

You can remedy this situation by building or putting together simple displays such as the ones shown on these pages. I say "putting together" because with orange crates you can do just that. By varying the number or arrangement of the crates several different displays are possible. These can be changed to fit various spaces much like sectional furniture. With a little paint and imagination you can convert orange crates, barrels, or old steps into "honey salesmen" like the ones shown here. If you're more ambitious you can build one from scratch using one of the sketches as a guide. Displays with moving parts are always eye catchers. You can use the wind or an old motor for power.



These simple post displays can be made with logs or 2x4's. The one on the right uses wind power to turn the sign on top on a simple pivot. These can be used as main displays or down the road as "come ons". The small shelves can be round or rectangular.

COLOR IS IMPORTANT

Bright colors such as yellow, red, blue, or green will add life to your display and can be seen from a distance. Remember to use waterproof paint to withstand the weather. Make the color of the lettering contrast with the background—light letters on a dark background and vice versa. If you have colored labels on your jars you may want to use the same colors on your display.

LETTERING

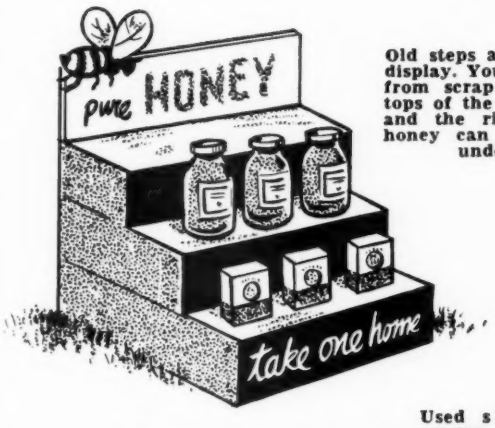
Don't clutter up your exhibit with unnecessary words. Make sure the important words like PURE HONEY are large enough to be read from the road. Keep your letters simple. Square cornered letters like those shown in the sketches are easy to make and easy to read. Letters can be painted on, cut from rolls of colored tape, or sawed out of plywood and nailed to the background. Small "Honey for Sale" signs can be purchased from your local bee supplier.

COME ONS

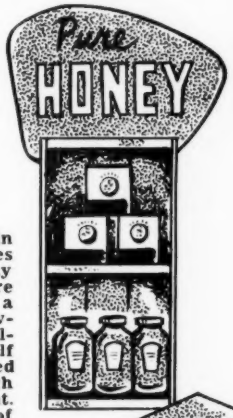
It's a good idea to post small signs saying "Honey for Sale" about 200 yards on either side of your display. At the speed cars travel on the roads today, no one would have time to stop without such a warning. Keep your display out in the open so that it can be seen from a distance.

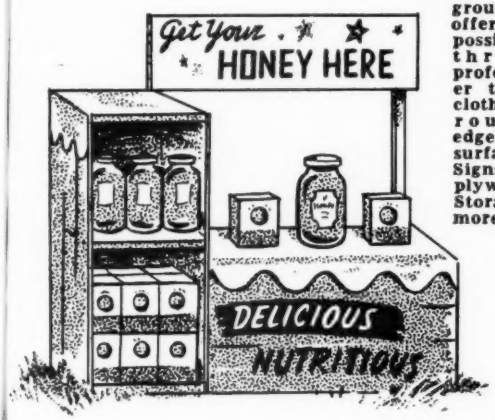
OTHER USES

Most of these displays are small enough to be portable and can be set up at fairs or in stores. Once you have one you will find many uses for it.

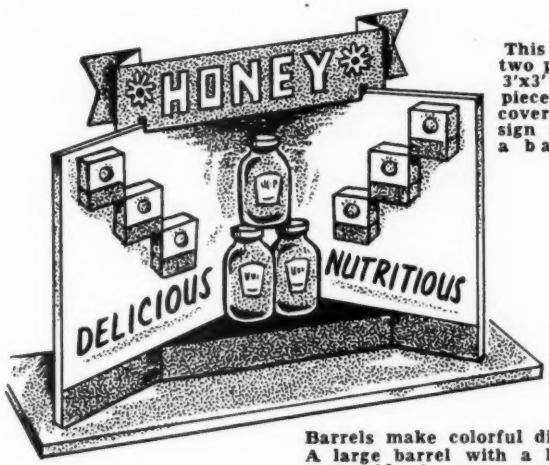


Old steps are the base for this display. You can also build one from scrap lumber. Paint the tops of the treads a light color and the risers dark. Extra honey can be stored in back under the steps.

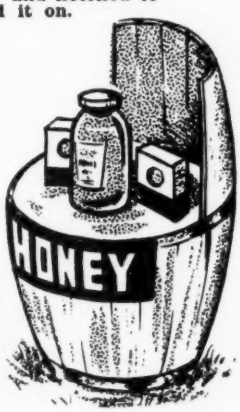




Used singly or in groups, orange crates offer many display possibilities. Here are three ideas. For a professional look cover the top with oilcloth and tack half rounds on exposed edges. Sand rough surfaces and paint. Signs can be made of plywood or masonite. Storage space for more honey is in the back.



This display is made from two pieces of plywood about 3'x3' with a wedge shaped piece made from scrap, covered with plywood. The sign is cut in the shape of a banner and notched to hold it on.



Barrels make colorful displays. A large barrel with a keg on each side is an eye-catching arrangement or you can use a large barrel as a main display with smaller kegs set down the road as "come ons".

The weather and nectar secretion

R. W. SHUEL, Dept. of Apiculture, Ontario Agricultural College, Guelph

Part 1

IT HAS BEEN pointed out (5) that, for a good honey crop, certain conditions must be met. Colonies must be strong enough to store a surplus and must have the storing instinct. There must be a nearby source of honey plants growing under favorable conditions, and weather conditions must be favorable to both nectar secretion and bee flight. If any one of these conditions is not fulfilled, the honey crop will suffer.

It is with the relationship of weather to nectar secretion that we are here concerned. It must be quite apparent to anyone who has kept bees for 15 years, or who has even examined honey production records, that weather is a matter of prime importance to honey production. It is important, too, to those people who use bees for pollination in cross-pollinated crops.

Research on nectar secretion has hardly scratched the surface of the field. To anyone interested in the status of the problem, Professor Beutler's recent review (2) is recommended. We do, however, have a considerable mass of data on weather effects, which, when pieced together, provides a rough picture. Much evidence has been obtained with plants which are not of economic importance in honey production. This fact does not make the information less valuable.

It is customary, in much basic research with plants, to use a plant which is convenient to handle. In much of my own work, for example, I have used snapdragon, which is of no value to the honeybee, although it can be worked by the bumblebee. There is no reason to suspect, however, that the process of nectar secretion is not basically the same in snapdragon as in such important honey plants as red clover and basswood.

A common method of evaluating the effect of weather factors has been the correlation of scale hive gains with various meteorological measurements. In some cases daily gains have been correlated with daily weather measurement, in others, total seasonal gains with average weather values for the season.

The principle of working out a correlation is, briefly, as follows: Suppose that two factors, "A" and "B", are varying. "A" might be mean daily temperature and "B" daily gain in colony weight. Variations in A and B are related to each other mathematically in the form of a decimal fraction termed the "correlation coefficient," which varies in size between —1 and +1. If A and B vary in such a way that the correlation coefficient is close to —1 or +1, the correlation between them is high; it may be high and positive, as when changes in A and B are in the same direction, or high and negative, as when A or B becomes smaller as the other becomes larger.

At a certain level, depending on the number of measurements taken, the correlation is said to be statistically significant, which means simply that the apparent connection between A and B is probably a real one and not due to chance. We should note that a high correlation between A and B is not proof that A causes B or vice versa. Both "A" and "B" may vary in sympathy with a third factor, "C" which might be, for instance, sunlight intensity.

Correlations between hive records

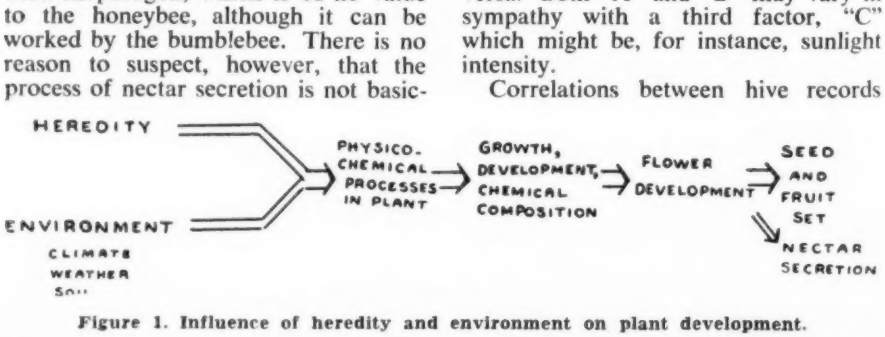


Figure 1. Influence of heredity and environment on plant development.

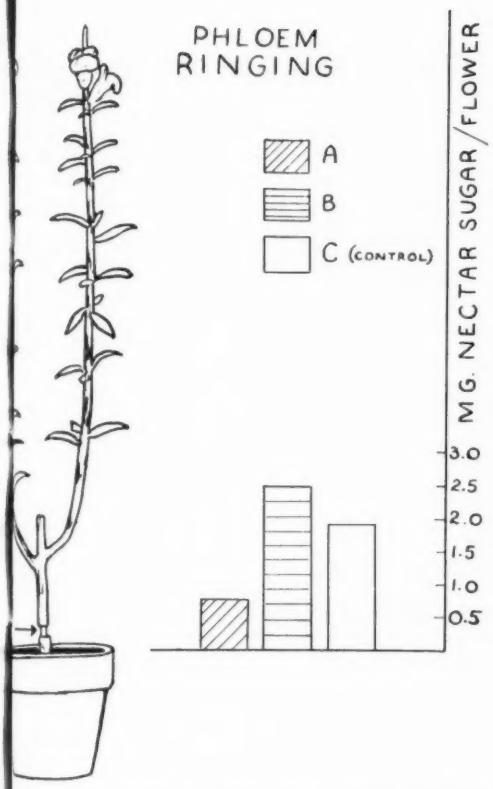


Figure 2. Effect of phloem ringing on nectar secretion.

and weather data have been worked out for various parts of Canada and the United States (3, 5, 7, 9, 11, 12). While in some instances definite relationships have been found, the results in general have been neither clear-cut nor consistent.

Careful examinations of scale hive records at the Ontario Agricultural College for the period of 1936-1953 have failed to reveal any consistent relationship with the weather. Such negative results, by no means unique, should not be interpreted as indicating a lack of relationship between weather and honey production. Rather, they should lead us to suspect that the relationship is a very complex one, not readily susceptible of demonstration by the correlation method.

In addition to weather conditions during the nectar flow, weather in the previous months, the nature of the soil, and the species of plants supplying the nectar will all have some effect on the honey crop. When hive gains are used as an index of nectar yield, an additional difficulty is introduced—that of separating weather effects on nectar secretion from weather effects on bee activity. Despite this criticism, data from weather and honey crop records have supplied valuable information. A more reliable source of information, though, is the controlled experiment.

The Weather, Plant Development, and Nectar Secretion

IN MY OPINION the influence of weather on secretion can be appreciated only through a consideration of weather effects on the development of the nectar plant from the earliest stages of its growth until flowering.

Figure 1 illustrates this idea in a general way. Each seed has the potentialities for producing a certain kind and size of plant. Within the limits set by heredity, environmental factors of climate, weather, and soil will shape the development of the plant. Each variation in the environment, however small, will cause some change in the internal processes, a change which may be reflected in the appearance of the plant, in its flowering, or in its nectar production.

Let us consider now a very important process occurring in green plants. Photosynthesis, the process by which sugar is synthesized from carbon dioxide and water through the action of solar energy, takes place in the green parts of plants, chiefly the leaves. Water enters the leaf from the soil by way of the roots and stem, carbon dioxide from the air through microscopic openings in the leaf called "stomates," which also serve as exits for water vapor.

Photosynthesis is the ultimate source of all of our food and fiber and most of our power. All of the organic constituents of the plant, including nectar, are some form of sugar or sugar derivative. Any weather factor influencing photosynthesis will have some effect on nectar secretion.

There is good reason to believe that the amount of nectar secreted by a plant depends on the level of sugar

and other carbohydrates in the plant (10, 17, 21). Typical of the evidence on which this belief is based is that presented in Figure 2.

Much of the sugar manufactured in the leaves is moved to other parts of the plant through tissues known as "phloem." In some plants a section of the phloem can be removed, by an operation termed "ringing" without affecting water transport. An operation of this kind in snapdragons is illustrated in Figure 2.

In one group of plants the phloem was ringed at "A", largely cutting off sugar movement into the flowers; in another group the ring was made at "B" to restrict movement of sugar into the roots. Unringed plants served as controls for comparison. The bars on the right of the picture represent average daily nectar yields. It can be seen that reducing the sugar supply to the flowers caused a sharp reduction in yield, whereas curtailing sugar movement to the roots evidently led to an accumulation of sugar, with the result that secretion surpassed that in the controls by about 25 per cent.

In another group of experiments (17) snapdragons were fertilized at two levels of nitrogen (1 and 1/15). Both groups of plants were healthy and normal in appearance, but the low nitrogen groups were shorter, weighed much less, and produced about 50 per cent more nectar than the high nitrogen plants. Associated with high nectar production were comparatively small amounts of nitrogen and large amounts of free sugar in the tissues.

(to be concluded)

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A Honey Jelly Recipe

JOHN D. HAYNIE, Extension Apiculturist, Gainesville, Florida

1 pound of water
3 pounds of honey
4 teaspoons of tartaric acid (tartaric acid made by dissolving ½ pound tartaric acid crystals or powder in 1 pint hot water)
14 grams of citrus pectin (No. 450 - 150 grade, California Citrus Growers Exchange)

Honey was heated to 155°F., constantly stirring; pectin mixed in an ounce of cold honey and water added and raised to a temperature of 180°F. The two liquids, honey and honey pectin, were mixed. Tartaric acid was then added and the liquid poured into containers.

The ladies' safety hive

ROGER A. MORSE, Gainesville, Florida

"Let not my love disdain these truths to hear
Which please alike the learned and the fair,
For though no tender tale her heart engage,
Nor song of love-sick swain bedeck my page,
My humble prose shall teach her how to find
Mellifluous sweets which leave no ills behind.
Not all the suitor's vows his heart declare,
For plighted troth is sometimes lost in air;
But these pursuits will honeyed fragrance bring
Without the danger of the treacherous sting."
—S. BAGSTER

COLLECTING OLD books on bees is of value and interest not only because of the books themselves but also for the oddities and notions which occur therein. "The Ladies' Safety Hive" is the title of a chapter in a book on the management of bees by Samuel Bagster, printed in London in 1834. Being not unlike the majority of beekeepers' wives it appears that Mr. Bagster's wife was afraid of the bee's sting, and for her and "the ladies of Britain" he invented the safety hive.

Upon examining the old hive more closely one sees that it is not as ridiculous as it first appears. Figure 2 is taken from the text and is a cross section of the hive. Each of the six compartments opens by a separate door. "K" is the queen's chamber and it is used as a brood chamber. "A" represents two glass windows so that the owner may follow the progress of comb building.

The four side compartments and the glass jar on top are for storing honey. There is no excluder to prevent the queen from entering these chambers. The fact that there is only a small hole leading to the side chambers and they are separate from the rest would probably discourage most queens from laying in them.

The method for removing the bees from the side chambers to get at the honey is unique and deserving of credit, at least for that time. The small openings labeled "i" are closed in midday so that the bees cannot return to the brood nest. About an hour before sunset the openings labeled "E" are opened and, as Bagster says, "all your prisoners will rush round to the front of the hive to the queen, with an alacrity that is amazing." After dark the door labeled "E" is closed. This does not sound unreasonable and we can only hope that Mr. Bagster experimented sufficiently to determine whether or not this is true. The following day the lady can quite easily open one of the side doors and "deprive it of its honey without fear of molestation." Later the bees are allowed to reenter the chamber and use it again.

Fig. 1. Three ladies remove honey "without the danger of the treacherous sting."

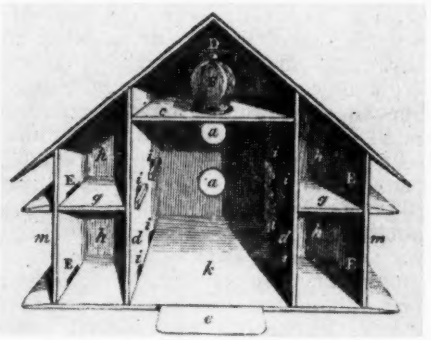

Fig. 2. The inside of the safety hive. See text for explanation.

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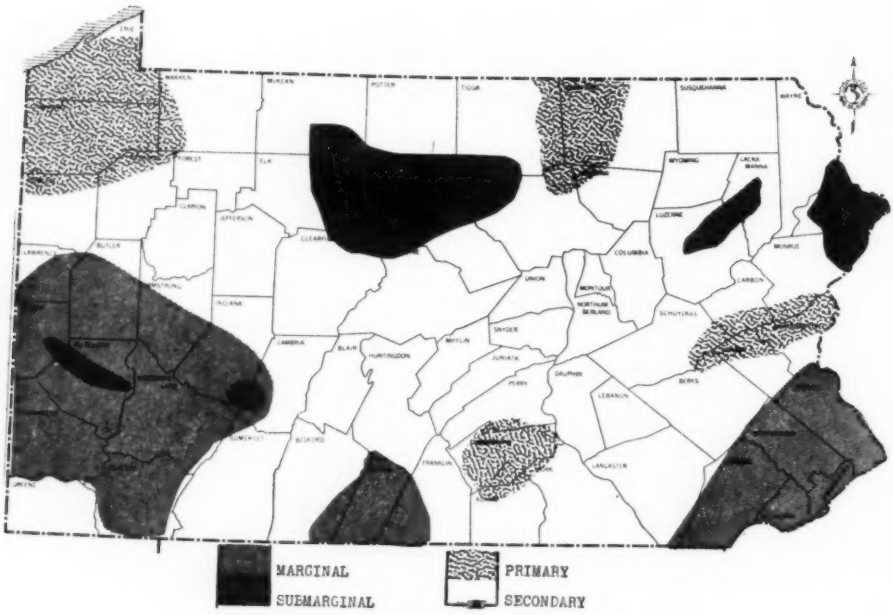


Beekeeping Areas of Pennsylvania.

Beekeeping in Pennsylvania

W. W. CLARKE, JR., Extension Apiarist, Pennsylvania State University

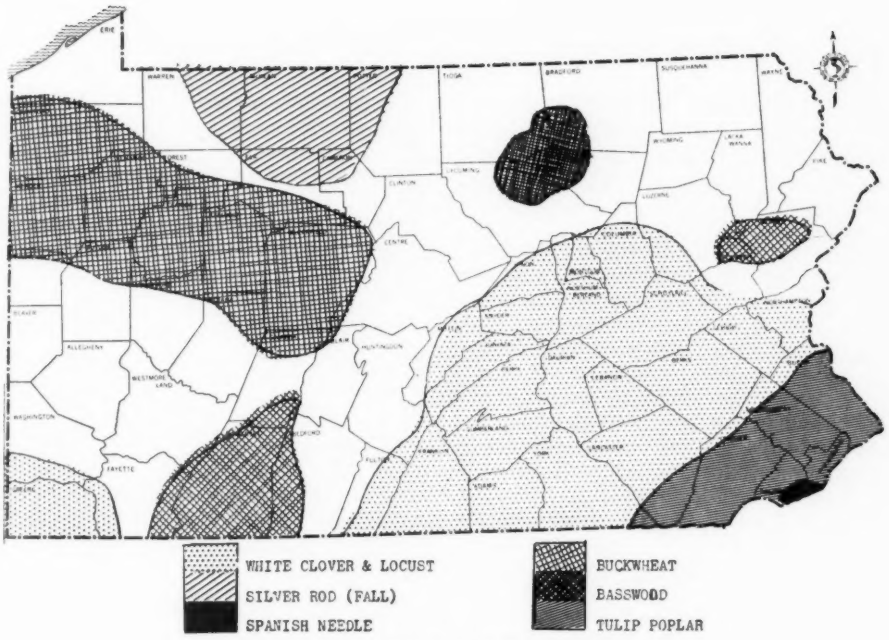
THE TOPOGRAPHY of Pennsylvania makes it difficult to delineate any clean-cut honey-producing areas. With the exception of the very heavily populated and industrial areas and a small area of forest land, the entire state has potentials of being a limited commercial honey-producing state. The commercial beekeeper and many of the hobbyists find it profitable to migrate for at least one crop. The widespread growth of such plants as white Dutch and other clovers, dandelion, sumac, maple, blackberry, and upland cress makes it possible to produce a crop of honey in almost any part of the state.

There are two areas where bees are rented for orchard pollination. The largest of these is the southeastern part of the state which includes Berks, Lancaster, York, Adams, and Franklin Counties. The second area is Erie County in the northwestern part of the state.

There is one small general area in the high altitudes of Elk, McKean, Forest, Indiana, Cambria, Clearfield, and Somerset Counties with large amounts of Hercules Club (**Aralia spinose**). This plant produces a large crop of bitter honey with a limited market but good wintering qualities.

Primary Regions

Pennsylvania has four areas which may be classed as primary; two are in the southeastern section and two in the northwest. The Cumberland Valley is first and includes a large part of Cumberland County. This area produces large quantities of clover and locust honey. The second area is a part of Northhampton County, also small parts of Monroe, Carbon, Lehigh, and Bucks Counties. This is almost an extension of the first area in the type of honey produced. There is some buckwheat produced in Carbon and Monroe Counties. This Northampton County area includes a large acreage of alfalfa where, unfortunately for the beekeepers, almost the entire crop goes to the dehydrator before it reaches the blooming stage. This area also has some tulip poplar, lima beans, and fall honey of poor quality. The third and fourth primary regions in the northern



Distribution of Honey Plants of Pennsylvania.

part of the state are the areas of Bradford, Erie, and Crawford Counties which produce a small spring crop of clovers, some basswood, and a very heavy fall crop of buckwheat, goldenrod, silverrod (**Solidago bicolor**), and aster of good quality.

Secondary Region

Most of rural Pennsylvania may be considered a secondary region for honey production. There are many areas in the region which will produce a major crop for a small beekeeper; almost every county has such a location.

Buckwheat, goldenrod, and aster are produced across the northern part of the state and through most of the western section. A small amount of basswood is found in this northern section. The southern area has clover, some black locust, and tulip poplar. Spanish needles or bur marigold (**Bidens trichosperma** and **B. laevis**) are produced in a small area in Delaware County. There is also some lima bean honey reported and being produced in the southeast. Buckwheat is also produced in an area in Somerset and Butler Counties.

It is possible to migrate to these secondary areas and produce very good crops. A beekeeper in the south and central areas would find it very profitable at the end of the clover flow to move to the buckwheat region and even make a second move to Forest, Elk, or Crawford Counties for goldenrod and aster honey.

Changing conditions, due to cutting of woodland, the spread of the cities, open-pit mining, and changing agricultural practices, help to determine whether portions of this entire area become secondary or marginal in nature.

Marginal Region

The marginal region is spotted throughout the State and includes heavily populated, industrial, and mining areas. The increase in open-pit mining has helped to turn many secondary sections into marginal areas. There is a small area in Erie County along the lake and the grape-growing area that probably falls in this classification.

Submarginal Region

The submarginal areas are the heavily wooded regions of Pike, Cameron, and part of Clinton, Lycoming, Centre, Clearfield, and Potter Counties and a few very heavily industrial areas in Allegheny and possibly Cambria Counties.

XUM

The bee bee tree (Evodia Daniellii)

FRED W. SCHWOEBEL, Curator
Langstroth Bee Garden, Morris Arboretum, Philadelphia, Pa.

ONCE IN a great while a potentially important plant is introduced into a new environment and it is many years before its value is appreciated. The beekeepers of the Eastern United States may have such a hitherto unrecognized plant in the Bee Bee tree, or Chinese Evodia. This tree was introduced into our country in 1905 and is still rare, most specimens being in botanical gardens and similar plantings.

At the Morris Arboretum, in southeastern Pennsylvania, the Bee Bee tree blooms for a period in excess of three weeks beginning about the middle of July and extending into August. It is worked actively by the bees throughout this time. At the base of a mature tree a distinct hum may be heard, even though the flowers are so high they would otherwise have escaped notice.

Other trees that are worked by the bees carry as much bloom as this and one or two bloom at an equally opportune time. There are, however, certain characteristics about the Bee Bee tree, which make it stand out from other nectar-producing trees and should make it of particular interest to any beekeeper who wants to improve forage conditions in his area. They are:

It grows readily from seed. No special skill is required for its propagation. A shallow super was placed on the ground in an open field enclosing a few spadefuls of newly turned earth in November 1954 and about a hundred seeds were scratched into the surface. With no further care germination this spring was better than 50 per cent. Any beekeeper, located in a favorable climatic area, should be able to grow enough trees for his own use, for distribution among his neighbors, or for planting on nearby waste land.

It makes an extremely rapid growth. The seedling planted in the Langstroth Bee Garden at the Morris Arboretum at the time the garden was first planted in 1951 stands today (late August 1955) at about twenty feet and this year bore a substantial head of flowers. First bloom noticed on this tree was in 1954. All printed references that were consulted (there are not many), speak of its amazing vigor in growth. First bloom is estimated at not more than eight years from seed, probably less.

Bloom of the Bee Bee tree at the Morris Arboretum.—U. S. Forest Service photo.

It reseeds itself. Seedlings can nearly always be found in the neighborhood of mature trees where the soil has been disturbed, indicating that it could easily become a permanent part of our bee flora, once it is established.

It is hardy. While the **Evodias** are generally a tropical family, a handsome specimen of Evodia Daniellii (to use its Latin name), has been growing in the Arnold Arboretum in Boston for many years. It grows luxuriantly in the eastern U. S. and may be suitable for most of the other states.

The Bee Bee tree is a fairly large tree native to North China and Korea. Botanists relate it to the orange. Flowers are small, waxy white, and are borne in clusters of about ten inches. These have a greenish-yellowish cast at a short distance and are often worked by 20 or more excited bees on a single cluster. Leaves are compound, resembling several of our native trees, such as the black walnut, green ash, and

(Continued on page 699)

Men and honeybees in Virginia

GEORGE H. REA, Williamsport, Pa.

GENERAL GEORGE WASHINGTON kept bees at Mount Vernon. On one occasion "General Washington's storekeeper charged out 300 nails to the carpenter for use in building a bee house." The documentation of the Mount Vernon bee house is drawn from a record book kept by the storekeeper. The entry reads as follows:

"1787 Del'd out of Store
July 28
300 8d Do (Nails) to Mathew for to make a bee house.
30
200 brads to Mathew for the bee house."

The restored shelter still accommodates several colonies of bees in the Kitchen Garden.

Honeybees, however, were brought into Virginia a long time before George Washington was born. "In Volume 111 of Susan Kingsbury, ed., The Records of the Virginia Company of London, Library of Congress, 1933, page 532. The Council of the Virginia Company of London wrote a letter to the Governor and council in Virginia dated December 5, 1621, in which they said 'We haue by this Shipp and the Discouerie sent you diurs sorts of seeds, and fruit trees, as also Pidgeons, Connies, Peacocks Maistiues, and Beehiues . . .'. From that we may conclude that bees were imported into Virginia from England at least as early as 1621."

"Phillips Alexander Bruce in his Economic History of Virginia in the Seventeenth Century, Vol. 2, page 201 says, 'Honey was a common article of food, much attention being paid to apiculture; there were few householders who did not have hives under the eaves of their out buildings, one planter owning as much as 13 stocks. Mr. George Pelton, who lived about the middle of the century, obtained from his bees an annual profit of 30 pounds stirling. There were many wild swarms in the woods, the honeycombs, which were concealed in the hollow of trees, becoming very frequently the booty of the colonial bee-hunters.'"

"When Governor William Gooch

George H. Rea

was asked about 1729 a series of questions about the natural produce of Virginia by the Board of Trade in London, he replied that beeswax was one of the natural products of the country. And almost every ship that sailed from Virginia to the West Indies or Madeira or southern Europe carried with it a small supply of beeswax presumably to be used in the connection with the making of wine barrels and other containers in those countries." *

Because it is evident that bees were imported into Virginia from England earlier than 1621 and by the middle of the century "there were few householders who did not have hives under the eaves of their buildings" shows that beekeeping was very popular among the early settlers. The fact that both beeswax and honey were important in the commerce of Virginia at that time sets it apart as one of the earliest, perhaps the earliest, English colony in America to engage in beekeeping. The sources of nectar are not mentioned but doubtless they were mostly trees and shrubs, for Virginia

(Continued on page 701)

* NOTE: The above information about beekeeping at Mount Vernon is quoted from a letter by Charles C. Wall, Resident Superintendent, and that about early beekeeping in Virginia is quoted from a letter by Mr. Arthur Pierce Middleton, Director of Research and Archives, Williamsburg, Virginia, to both of whom the author is deeply indebted.

The honey maze-complex factor-effects*

Nature of honey—its care in processing and storage

VERN G. MILUM, University of Illinois

Part II

IN OUR FIRST article, an attempt was made to define "honey" and to list its principle ingredients. The tables presented therein give some indication of the variation that occurs in honeys as they are gathered and stored in the hive. Many of these variations are due to different flower sources, but even with the same nectar source, variations in composition will be due to different soil conditions. In any given area, variations of a particular flower source will result from different weather conditions along with the accompanying variation in the proportions of the various plants that are blooming at the same time. This stored honey removed from the surplus supers will in turn vary with the practices of the producers, i. e., whether the nectar is stored in combs free from previous crop honey and whether each crop from different plant sources is removed promptly or the whole is allowed to accumulate with extracting as one lot at the end of the season.

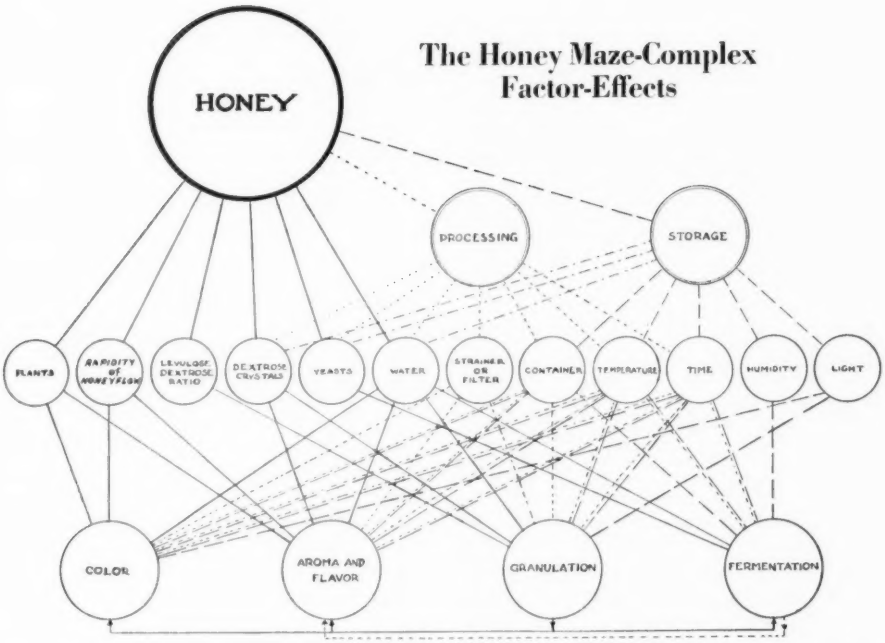
As stated in the previous article and as shown in the diagram herewith of The Honey Maze-Complex Factor-Effects, there are four main points of consideration to be given to honey in its production and care, namely, color, aroma and flavor, granulation, and fermentation. As indicated, there is a complexity of interactions. Not only are the honeys variable in their composition, because of the plant sources, but after being stored by the bees and harvested by the producer, they are subject to granulation, usually followed by fermentation. Both of these may be prevented or retarded by proper heating and storage, which may in turn have a direct effect upon the color, flavor, and aroma of honey. Conditions and treatment that may retain one quality of honey may not eliminate other causes of losses.

The problems of honey care in processing and storage are principally involved in the prevention of granulation and fermentation which if improperly done may cause darkening along with a loss of or masking of the original delicate flavor and aroma. Although these factors are more or less interrelated, it seems best that they be discussed somewhat in the order of their occurence and importance. If honey never had any tendency to ferment, there would be little if any problem in its care, except for those using honey for making wine and vinegar. Thus it seems that prevention of honey fermentation should be our first consideration in these discussions.

Fermentation of honey is brought about by the action of sugar-tolerant yeasts upon levulose and dextrose, resulting in the formation of alcohol and carbon dioxide. One who is making honey wine should arrest the action at this point. If not, the alcohol, in the presence of oxygen, may then be broken down by bacteria into acetic acid and water. As a result, honey that has fermented eventually has a sour taste. With proper proportions of honey and water, this is the eventual result in the making of honey vinegar. Due to the release of the carbon dioxide gas, granulated honey upon fermentation will show a lightened color with whitish streaks or mottling, sometimes called "frosting". If granulated honey that has fermented is reliquefied it will exhibit considerable foaming, particularly during heating. Upon standing, granulated honey that has fermented will eventually liquefy partially, forming an upper liquid mass capped by a foamy layer.

Fermentation of honey often is called "honey spoilage". A rather widespread belief among consumers is that honey that has granulated is actually "spoiled". Possibly, the more general appearance in the markets of the variously prepared granulated or creamed honeys will alter this general opinion. The actual degree or extent of spoilage or effect upon the flavor and quality depends upon the length of time fermentation is allowed to proceed before

* Contribution from the Entomological Laboratories of the University of Ill.



The above diagram illustrates the multiplicity and interaction of factors which are involved in the problem of producing and processing honey in order to present the customer with a quality product. Additional lines and circles would be required if all factors were included. For instance, the plant substances contributing to "color" and "aroma and flavor" are not shown but are listed in the table of the composition of honey included in the preceding article of this series (see October issue page 593).

being stopped by heating or other treatment.

In extracted honey production there is usually little fermentation in the combs except when combs are removed before the honey is well ripened. "Weeping", an evidence of fermentation, is first noticeable in the outer uncapped combs of a super and is also more evident in fall-produced honey which the bees have had less opportunity to fully ripen because of the time, temperature, and moisture conditions. The basic principles in evaporation of moisture from any material as well as the reduction of the water content of nectar to that of honey are high temperatures, low relative humidity, air currents, and surface exposed. Perhaps the absence of some of these essential factors are involved when comb honey producers have trouble with "weeping" sections. Fortunately, the use of a commercial dehumidifier will correct this situation.

Fermentation of honey is due to the action of sugar-tolerant yeasts, the primary sources of which are the flowers and the soils of established apiaries. The air and the equipment in honey houses are contaminated with them. Likewise, combs in the hive, particularly those containing honey from the previous season and wet extracting combs used as supers at the beginning of or during the honey flow may be abundant sources of yeasts. Practically all honeys contain yeasts varying between rather wide limits, usually the greatest numbers being present in honeys with high moisture content. In combs from the same super, the greater numbers of yeasts are found in the uncapped combs which usually have the greater water content due to incomplete ripening or absorption of moisture under conditions of high relative humidity.

Honeys high in water content are more subject to fermentation, hence it would seem that delaying removal of extracting supers until fully capped might solve the problem. Proper ventilation of supers is helpful, but in wet

weather the bees may not be able to remove excess water because of the relative humidity. Investigations by Martin[1] have shown that a liquid honey of 17.4 per cent water content is in equilibrium with water vapor at a relative humidity of 58 per cent, while granulated honey tends to attain equilibrium at a slightly higher relative humidity. This is to say, that a liquid honey of higher water content would lose waters at 58 per cent or lower relative humidity and a honey of water content lower than 17.4 per cent would absorb water at 58 per cent or greater relative humidity. Practically speaking, it is concluded that a relative humidity of not over 60 per cent gives the best storage conditions. It is apparent that the water content of a thin honey can be reduced by exposing it in a thin layer in a dry atmosphere or, perhaps more efficiently, by passing currents of warm, dry air over its exposed surface. Vacuum bottling equipment for removing excessive moisture is sometimes used, although there is danger of reducing the aroma and flavor.

While honeys with a low water content will not ferment, they may granulate and later ferment if living yeasts are present. When dextrose hydrate crystals are formed, the parts removed from the remaining liquid are in the proportion of 1 part of water to 10 parts of sugar or 9.09 to 90.91 per cent. Thus the remaining liquid portion surrounding the crystals has an increased water content which may be sufficient to allow the growth of yeasts if present, resulting in fermentation. These facts indicate that fermentation may be controlled by prevention of granulation or simply by the destruction of the yeasts by heating, followed by care to prevent further contamination with living yeasts.

Heating honey to 145°F. for 30 minutes, or up to 160°F., has been found sufficient to prevent fermentation. Such treatment may prevent granulation of honeys that have a low dextrose content and granulate slowly even when unheated. However, after such treatment, most honeys granulate but will not ferment if the heated honey originally was placed in the containers and sealed while hot. As yeasts may float in the air, contamination of granulated honey with living yeasts may be prevented by keeping the containers sealed. Even the simple opening of a display sample for tasting may allow the entry of yeasts.

It has been shown that honey yeasts are not able to grow at 51.8°F. or lower storage temperature. While this suggests a means of preventing fermentation it is not very practical because of the refrigeration costs. But this very condition points to one of our practical problems. Extracted honey that has not been heated will granulate when stored in an unheated honey house during the winter. As long as the temperatures remain cold there is little danger of fermentation, but with the coming of the warmer spring days then there is danger of fermentation. Or let the producer ship this granulated honey to the packer who places it in storage in his bottling plant. With the warmer temperatures, the yeasts begin to grow, and there is loss. Can we say that the producer is at fault? The honey is in good condition when it leaves his hands. The bottler, knowing the nature of honey, should therefore be prepared to process, within a short time, any honey that has granulated if it has not previously been heated to 145°F. for 30 minutes and placed in sealed containers while hot.

Honey that has fermented will show a tendency to foam because of the release of carbon dioxide bubbles as a result of the chemical reaction. Two or more successive heatings of such honeys will tend to reduce the amount of foam but some will form on the top of the liquid surface in the heating tank and in the eventual container. This foam layer may be due also to the incorporation of air bubbles by agitation or stirring during heating of even an unfermented honey. If stirring is used during heating, the agitator should be slow moving and completely submerged. Furthermore, in straining and bottling, the honey should be prevented from falling long distances by means of funnels, troughs, and slanting baffle boards. Even in filling the jars or other containers, air bubbles can be

(Continued on page 701)

[1] Martin, E. C. 1939. The hygroscopic properties of honey. Jour. Econ. Ent. 32 (5): 660-663.

How many can you identify?

For correct answers, see page 698

1. .....

2. .....

3. .....

4. .....

That burning question again

J. E. ECKERT, Davis, California

IN THE PAST decade no question has been debated more by beekeepers than that of chemotherapy of bee diseases. The prejudices and habits of 30 or more years, formed during the "burning era" are hard to break down and understandably so. But practices in beekeeping should be based on proven facts and history has shown that when a law becomes obsolete or unworkable, because of newly discovered facts, then the law gives way to progress and to change.

We have been "brainwashed" with the idea that American foulbrood-infected combs and honey could not be used again without spreading the disease and that the "best way to treat infected combs and colonies was to destroy them by fire or to melt the combs and convert them into commercial beeswax; that the honey should also be destroyed and the hive parts sterilized either by flaming with a blow torch, or with gasoline, or boiled in lye water". Most of the bee laws requiring burning are based on this faulty premise. Haseman proved that these statements were not true in 1944 and since then thousands of beekeepers have profited by his observations.

Numerous other research workers all over the world experimenting with sulfa drugs and antibiotics in the control of American foulbrood as well as with other diseases, have verified the results and have added to the list of chemicals and methods of procedure in applying them in the prevention and cure of different diseases. It would seem that the publication of the facts would be enough, but in this case they will have to be repeated and proven again and again under practical beekeeping conditions before the machinery can be set up for an unlimited assault to be made on the prevention, control, and eradication of bee diseases.

A review of a research article, contained in "Bee Facts" for September 1955, Gleanings, might lead some beekeepers to believe that the editor was not convinced that chemotherapy can be made to work. The article entitled "A Disease of AFB is Discovered and Isolated" by Dr. T. A. Gochnauer contained the following statement: "Research shows that different strains of American foulbrood exist and the arguments in favor of discarding the sulfa treatment are strengthened." In his original article, Dr. Gochnauer stated, "It may be of passing interest that the first indicator strain obtained (by him) was one sent from Georgia by a beekeeper with the report that the disease resisted extensive treatment with sulfathiazole. We were unable to determine a significantly higher sulphathiazole resistance **in vitro** by the Georgia strain than by the available Minnesota strains, and the phage sensitivity of the Georgia strain was the first indication that a difference between the two strains actually existed". I doubt very much if Dr. Gochnauer even dreamed of the possibility of producing a bacteriophage that would eliminate AFB from a hive if it were fed to the colony or sprayed over the combs.

In discussing the phenomenon of bacteriophage with Dr. Gochnauer at Chicago, he gave no impression that chemotherapy of AFB should be discontinued because of it. The chances are that bacteriophage has been present long enough for some strains of **B. larvae** to become resistant to its effects. The chances are also good that it has been present for decades, if not centuries, and has not controlled AFB.

In my work with sulfa and the antibiotics over the past eight years, I have found some colonies easier to eradicate disease from than others, but it is just as reasonable to lay the cause to differences in the colonies themselves rather than to differences in the resistance of the bacteria. No two colonies are alike any more than are leaves of a tree. They vary in numerical strength and in their reactions to their environment. It is only natural that their clean-up reactions to sulfa would vary with the strength of the colony, amount of disease present, their potential ability to work in cleaning out the scales and other characteristics connected with the ultimate elimination of the disease. The method of applying the chemicals would be an important factor.

In the August article on the "His-

tory of AFB in Michigan," the author indicated a good clean-up in recent years in one large fruit county after the number of colonies had been decreased from between 4,000 and 5,000 to 200, presumably by disease, and presuming again, that the decrease occurred without inspection. He stated that out of the 3,535 colonies now in the county, presumably encouraged by inspection, only 30 or 1.2 per cent were diseased. (This number should be 0.85 per cent). In 38 years of the burning treatment, his reports indicate that at least ten counties still have five to ten per cent disease, and that many of the previously disease-free colonies (in 1927) are still free of disease. A gain of seven disease-free counties has been made in 27 years, and there is no guarantee that they will stay free of infection.

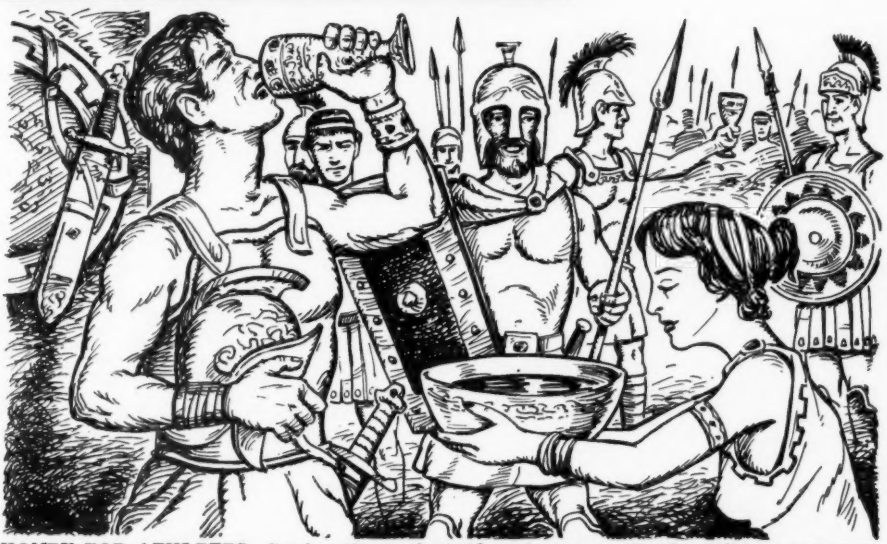
If all beekeepers were instructed on how to properly use sulfa or terramycin in the control and eradication of AFB, the inspectors could supervise more apiaries than they could inspect and the clean-up of disease would be much more rapid. We haven't used a blow torch or sterilized in any way queen excluders, bottoms, tops, or hive bodies of our diseased colonies from which AFB has been eliminated by the feeding of sulfa or terramycin over the past eight years and there have been no failures. All that is necessary is to scrape the bottom board free of debris and then wash the hive parts to eliminate honey that might have been shaken from the combs. If one desires to be more thorough, hot water or a combination of hot water and steam can be used in the cleaning process. Of course, if the combs are melted out of the frames, the frames can be cleaned readily by boiling in lye water. So, it can be done and it is being done by thousands of beekeepers all over the world and no amount of denial of the facts by those who have never tried it will change the results.

I certainly do not consider it desirable to eliminate burning from our bee disease laws, but I would eliminate compulsory burning and make it op-

(Continued on page 703)

Bee Lore

Illustrated by
V. R. Stephen



HONEY FOR ATHLETES. During the ancient Olympic games, Greek athletes ate honey before they entered the arena. In the famous "Illiad", Homer described how tired heroes also consumed honey while resting in Nestor's tent. Edmund Hillary, a New Zealand beekeeper, supplied a modern counterpart when he included honey in the diet he consumed during his now famous climb to the top of Mt. Everest.

B & Z Library

XUM

Let's talk about honey plants

HARVEY B. LOVELL, University of Louisville

PERILLA or beef-steak plant (**Perilla frutescens**). A specimen comes from S. W. Edwards of Myersville, Maryland. He writes, "Enclosed is a very interesting bee plant growing in great patches when not disturbed in the Middletown Valley of Frederick County. As I enjoy very much your articles on bee plants and learn quite a lot from them, I take the liberty of sending this one to you with some notes. This plant is **Perilla frutescens**, an escaped mint. It grows in an area as wide as the Valley and about 16 miles long. It is found in patches in abandoned woodsy field edges, and waste places where land is rich and undisturbed. It is blooming its heaviest today (Sept. 20) and for a week the bees have worked it well—not furiously—along with goldenrod and some purple aster. It lasts about three weeks if frost does not hit it."

He further adds that many species of birds walk through it, eating the seeds as they are shaken out. Although he does not believe any domestic animals eat it, it is not too bothersome as a weed. The chef at the Japanese embassy in Washington seasons many of his foods with dried portions of **Perilla**. Edwards has two large herb gardens and does quite a lot of work with mints and other herbs, most of which the bees work strongly.

At a meeting of the Southern Indiana beekeepers, a specimen of **Perilla** was brought in by one of the members with the statement that his bees were working it freely. Charles Medley of Louisville also called my attention to a patch of **Perilla** with the comment that the flowers yielded nectar.

Oregon. In a recent letter Fred Van Natta of Rainier writes, "There are a few plantings of Lotus major in this country and they are doing fine especially in damp draws where water stands or runs part of the year. Bird's-foot trefoil is a common name for it and it is related to **Lotus corniculatus**. I have been told that the honey is a light color and good quality but I have too small a planting to get pure honey myself. Lotus major makes good hay and pasture. Seeds do not start easily but the plants grow readily once they get started."

Perilla, a mint recently introduced into the U. S. which is becoming common.

Germany. I have received for examination a collection of very beautiful colored slides of honey plants from Mr. Wolfgang Wittekindt of the Institute for Bee Culture at Bonn. Many of them show closeup views of the honeybee on the flower. Mr. Wittekindt's photographs have appeared in GLEANINGS, AMERICAN BEE JOURNAL, and MODERN BEEKEEPING, and his work is well known to readers of both Europe and America.

Indiana. I recently received a pressed plant from Gilbert Perigo, Chief Apiary Inspector for Indiana, with the comment that bees were working it heavily and that it resembled purple loose-strife or water willow (**Decodon verticillatus**), a shrubby plant three to ten feet tall which grows in damp places, often on the banks of streams or small lakes. The purple flowers are in clusters in the axils of a cluster of slender leaves.

Another little known honey plant also called water willow (**Dianthera americana**) grows abundantly in shallow streams and the shores of lakes

throughout the eastern and especially the southeastern states. I found acres of it in bloom in June in many of the T.V.A. lakes in western Tennessee and North Carolina and everywhere bees were working the pale violet flowers. The plants are very delicate growing only about one to one and one-half feet tall. Harry Starnes, Crawfordsville, Indiana, once reported that his bees stored as much as 100 pounds per colony from water willow. Heavy yields have also been reported from Texas. The honey is described as resembling that from clover.

Mr. M. G. Dadant writes me that he is interested in introducing this valuable honey plant into the United States and urges me to try it out in Louisville. This plant may prove of great benefit in controlling the large amount of erosion going on in our southern states.

Why Not Advertise Honey in Subways?

YIS MAYER, Bronx, N. Y.

THIS STEMS from a long-standing irritation at the advertisements (or, rather, the lack of them) in this city's subway system. On every platform, in every car, in every exit avenue along the underground maze, the walls submit to grotesque, flamboyant, so-called "modern" ads urging the public to clamor for products the majority of which are foodstuffs.

We are sworn to, cajoled, wheedled in the prophecies of the great god: **Sugar.** Yankee ingenuity condones the year after year betrayal of the riding public in the fallacies of everything from nickel peppermint sticks to pie fillings, cakes, and jellies rich and creamy.

Every car runs the gamut, in advertising, of life itself. There is an ad for layer cake and candy; opposite one for meat products; another for sugared cereals, soda-pop, sweetened milk—and in the far corner, invariably, a goodly purchase of laxative and protective forms of tooth cleansers.

Never have I seen an ad for honey except as a beneficial base for a cough medicine or cough lozenge. Never has a company so much as offered the public information as to the values of honey in any of the multitudinous varieties of foods and food making. Always the flood of ads for summer delicacies, sugar based; always the tooth cleansers to scotch decay fears; always the temptations of the sweet tooth cheaply eased—but never ads on the ill gains, the irreparable decay caused by sugar in the mouth and body, and never the virtues of honey.

We are sung to, made to write the last lines to jingles, appealed to in every phrase and phase of the ad man's book for stuffs that, I think, aren't as good for us as other unclaimed foods are. Honey, we know, is not only beneficial to the sick but an unrivalled sweet in a world whose very whims and frustrations are often pacified by a stick of gum or a chocolate bar.

Why this silence in one of the greatest ad mediums in the greatest city of the world? Why only appeals in farm journals and country magazines? Why limit honey signs to roadside stores and city health-food shops? Are the honey producers stifled by the competition, or the lack of a suitable form of a honey product acceptable by the nation's youngsters?

Surely we are inventive enough to spice rhymes about the merits of honey as an all-around sweet, at snack-time, for drinks, for cake-baking. Possibly a good subway advertisement might be a series of informational cards on the history of honey from the ancient days (which used it more) to the present. Using drawings and photographs (to be appreciated by a public sardine-squeezed twice a day, every day, who conceivably would like more pictures and less prose) to portray the role of honey as a MODERN food, not standoffish or countrified.

There might be a series debunking the popular conceptions toward honey, i. e. the notion that honey which crystallizes in the can is bad; emphasizing the power and proof of honey as a modern aid to man. Information ought to be available to the public on the standards of the honey producers in presenting the honey to market. Perhaps on the bottom of each card ought to be printed the address where one might send for further information on honey recipes, or the various states that produce their particular kinds of honey, or groups meeting to discuss and try out honey recipes.

XUM

Hearty

MRS. BENJ. NIELSEN
Aurora, Nebraska

Honey baked beans and brown bread are a filling team for nippy days.—Photo courtesy Kellogg Co.

THERE'S A DECIDED zip in the air, a matching one in the step and appetites keep pace with both. So hearty filling menus are the order of the day. And, what is heartier than baked beans and brown bread—the honey way, of course. Good filling rib-stickers, both of them. Whether you try the long baking or the quicky type you will find the beans have superb flavor. Start with hard little pellets of dried beans, or open cans of baked beans and "treat" them, if you are hurried for time. Both are sure repeaters!

Good eating to you!

Honey Bran Brown Bread

One cup ready-to-eat bran, ½ cup raisins, 2 tablespoons melted shortening, ½ cup honey, ¾ cup sour milk or buttermilk, 1 egg, 1 cup sifted flour, 1 teaspoon baking soda, ½ teaspoon salt, and ½ teaspoon cinnamon.

Combine bran, raisins, shortening, honey, and sour milk; let stand until most of the moisture is taken up. Add egg and beat well. Sift together flour, soda, salt, and cinnamon. Add to first mixture, stirring only until combined. Fill two greased cans, 4½ inches deep and 3¼ inches across, about ⅔ full. Bake in a moderate oven, 350 degrees F., about 45 minutes. Yield: 2 loaves.

Quick Honey Baked Beans

Three slices bacon, chopped, 1 onion, chopped, 1 green pepper, chopped, ⅓ cup honey, 1 tablespoon prepared mustard, and 2 cans (No. 2) baked beans.

Fry bacon until crisp. Add onion and green pepper and cook until onions are clear. Add remaining ingredients and place in baking dish, 2 quart size. If there is too much liquid on canned beans, drain before adding. Bake in a moderate oven, 350 degrees F., for 1 hour.

Honey Baked Beans

Four cups dried navy beans, 6 cups water, 1 tablespoon salt, ⅓ cup honey, ½ cup brown sugar, 1 teaspoon dry mustard, 1 pound salt pork, scored down to rind, but not through rind, 1 large onion, peeled and scored on top.

Wash beans, cover with cold water and soak overnight. The next morning drain off water, place beans in large kettle. Cover with the 6 cups water, or more if necessary. Cook slowly until skins burst. Drain. Save the liquid. Combine salt, honey, brown sugar, and mustard with the liquid. Place beans in bean pot or covered casserole. Place salt pork and onion on top of beans. Add the liquid. Cover. Bake in 300 degree oven, 6 to 8 hours. It may be necessary to add more liquid. Remove cover the last half hour of cooking. Serves 10 to 12.

Our Cover Picture

MANY beekeepers in cold climates are now wrapping their hives with black tar paper which not only gives protection from the winds but also absorbs some of the heat from the sun's rays.—Photo by Bob Milo.

On the Origin of Honeydew

O. MORGENTHALER, Liebefeld-Berne, Switzerland

I WAS ASKED about the origin of Swiss "Waldhonig" (forest honey), which is gathered from the fir-trees. Some have wondered whether this is an exudation from the tree itself or an excretion of plant lice. During my trip in the USA in the summer of 1953 the honeydew problem was discussed with American beekeepers and bee scientists, and it seemed to me, that they were rather surprised to hear, that **one kind** of honeydew (the one which comes from the fir-tree **Abies alba**) determines the feasibility of beekeeping in large parts of Switzerland and Southern Germany (Black Forest) and that the honey from this honeydew is highly appreciated and has, in some parts of Germany, received a higher price than the honey gathered from flowers.

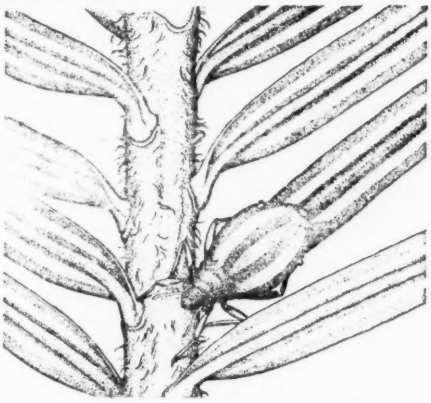
So I am happy to give you our point of view on the origin of honeydew as it results from very careful observations and investigations in some European laboratories. I quote here only two recent publications* where these results are summarized.

This is how we see it:

(1) The raw material for honeydew is exactly the same as for nectar: it is the sugar-containing sap in the vessels (phloem, sieve tubes) of the plants. So all honeydew has in truth a vegetable origin.

(2) In the flowers this sap is exuded as nectar by the nectar glands or nectaries. But numerous plants don't have nectaries. Here it seems impossible for the sap to come to the surface of the plant without the aid of plant lice.

(3) Plant lice (aphids and scale insects) perforate the bark of young twigs (or the epidermis of leaves) and suck the sap in the phloem parts of the vessels. They "seem to feed continuously and have to take in large amounts of cell-sap in order to obtain sufficient nutriment from it. In the process they imbibe far more sugar and other constituents than they can make use of". (**A. D. Imms** "Insect Natural History") and these unwanted products are discharged as honeydew. Whoever is somewhat conversant with the anatomy of the lice and knows the ingenious "filtering chamber" in their digestive tract does not at all consider this origin of the honeydew as distasteful or nasty.



The aphid Cinara pectinatae on the coniferous tree Abies alba, a very helpful animal to beekeepers in Central Europe. The insect is easily overlooked owing to the fact, that its color and pattern agree with the appearance of the leaves of the host plant. (From Schneider-Orelli, 1950).

(4) So the lice don't **produce** the honeydew but they act as a pump to bring it out of the inner parts to the surface of the plant.

(5) Whether there exists another kind of honeydew, exuded from the plants without the aid of insects, is very heatedly discussed in beekeeping reviews. Most botanists deny it. At all events we are indebted to an aphid, **Cinara pectinatae,** for our most important honeydew coming from **Abies alba.**

(6) Not all honeydew is so highly appreciated as the honeydew from **Abies.** We agree with our American colleagues as to the inferior quality of some honeydews from foliage trees.

May I add that the "louse theory" is not at all based only on recent discoveries. As early as 1763 the French Abbe **Boissier de Sauvages** at Nimes described in all details the role of aphids in the production of honeydew.

*Zander E. Studien zur Herkunftsbestimmung von Waldhonigen, Munchen 1949. Schneider-Orelli O. Das Problem des Blatthonigs, Suppl. to Swiss Bee Journ. Nr. 19, 1950.

XUM

Editorials

The Results of Research

SECRETARY OF AGRICULTURE Benson speaking October 6 at the 75th anniversary of the New Jersey Agricultural Experiment Station at New Brunswick, said: "Take away the results of the past 75 years of agricultural research and education in this country, and you would reduce this nation to a fifth-rate power. Seventy-five years ago each farm worker, on the a v e r a g e, produced enough food and fiber to supply himself and four and one-half other persons. Now the average farm worker produces enough for himself and 18 other persons. That is why we can have close to 60 million people employed in private and public occupations outside of farming. That's why we can have the standard of living Americans enjoy today. In no other nation today do so comparatively few farmers produce food and fiber to feed and clothe so many."

This statement makes us realize our good fortune in getting $100,000 additional research funds for work in apiculture. The funds must be used wisely if we are to continue to receive sufficient research funds annually. While some of the money should go to pollination, we feel that the bulk of the money should be used to develop equipment for improving honey processing. Too much of the natural aroma and flavor is lost in the present day honey packing plants. Too often the product that reaches the consumer is nothing but a sweet syrup rather than "natural" honey with all of its goodness.

It might be that ultrasonics will provide an answer to our many honey problems. . . .at least it is worth a try. For complete details readers are urged to read page 523 of the September issue of Gleanings. We hope that university research apiculturists, honey packers and beekeepers will work with the Curtiss-Wright Corporation in the development of ultrasonic equipment for handling honey. See page 692 in our "Just News" section for more details.

The Beginner Beekeeper in a Quandary

WE SHOULD PITY the beginner who is trying to make a start in beekeeping and asks different people, most of them beekeepers, just what and how he should manage his bees. One beekeeper will tell him one thing, another beekeeper will tell him something else. Some will say that he should use large hives, others tell him he should use smaller hives. What is he to believe?

Obviously, the thing for the beginner to do is to learn the principles of beekeeping by reading reliable beekeeping literature and associating with good beekeepers. He should then work out a method of apiary management that suits his locality.

It is difficult to tell a beginner just what he should do in handling his bees. He may have to learn, perhaps by the trial and error method, what to do in hive

manipulation. He must be governed by the nature of the honey flows in his locality as to what type of hive manipulation he should adopt.

State and county beekeepers' associations should have a vital interest in the beginner or hobby beekeeper. Some commercial beekeepers may think the beginner is a nuisance. However, these commercial producers must realize that at one time they were beginners, seeking beekeeping information. Our industry needs more up and coming young beekeepers to take the places of older beekeepers who pass on or are unable to carry on.

It might be a good idea for each state and county association to appoint a committee to help look after the interests of novice beekeepers. This would doubtless result in beginners making less costly mistakes. They should be taught how to identify brood and bee diseases in order to control them.

Enthusiastic beginners help to promote the sale of honey because they are likely to talk bees and honey among their neighbors and in their clubs and other social groups. **Let's help the beginner beekeeper.**

The Period of Quiesence in the Hive

SOME BEEKEEPERS write us that they are unable to find any brood in hives during late October and November. The most of such beekeepers are located in the North.

Fortunately for the beekeeper and the bees, there is during the late fall and early winter months a month or so when the activity of a colony is at a very low ebb. The bees eat enough food to keep alive and do the minimum amount of work. This is called the "period of quiesence".

Colonies that have very young queens may have a few eggs or young brood during November and December in the North. As a rule, however, no brood or eggs are found in the combs during these months.

As a matter of fact, the behavior of the bees in the colonies during this time is much different from what it was during the spring months when brood rearing has already begun. During the late fall bees appear to be listless and act as though they are thoroughly enjoying the rest following the arduous labors of the past season.

In this latitude, queens begin to lay a few eggs during late January and early February. After brood rearing starts it is likely to continue and gradually increase as spring approaches. The amount of brood rearing that occurs early in the spring, before bees have access to fresh nectar and pollen, will depend on the amount of pollen there is available in the combs of the brood chamber.

In some parts of the far North, as for example in Northern Canada, colonies of bees are put in winter repositories during early November and in some cases remain in these dark cellars for about six months. In such cases the period of quiesence would extend considerably beyond the normal two months' period.

However, unless they are provided with good quality stores and suitable winter conditions, such colonies are likely to be restless as spring approaches.

Keep Foulbrood Reports Out of Newspapers

WHEN FOULBROOD is mentioned in connection with bees and the production of honey the majority of people, unfamiliar with beekeeeping, are likely to assume that foulbrood makes honey unfit for human consumption. The name foulbrood could be damaging to our industry in that it may tend to create an abhorrence for honey. Fortunately, the organism **Bacillus larvae** could be present in honey without doing the consumer of the honey any harm.

It would seem preferable to apply the scientific names, **Bacillus larvae** and **Bacillus pluton** to the two most common brood diseases, American and European foulbrood, especially when it seems necessary to mention them in the press.

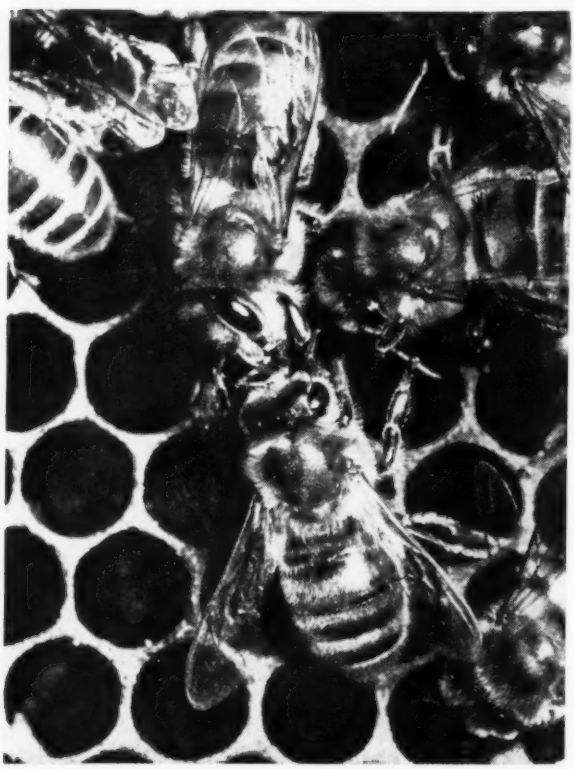
It is fortunate that bacteria which cause diseases in human beings cannot grow in honey. Hence, it is considered a safe and wholesome food.

We should guard against using any material in newspapers that will in any way retard the progress of our industry or cast any aspersions on the fair name of honey.

XUM

News

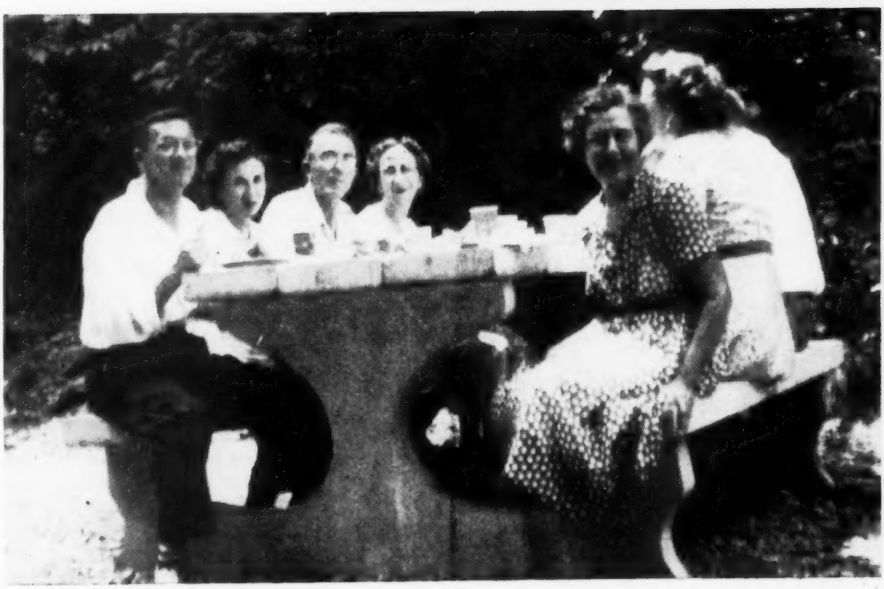
Beekeeping tour. This group of British Columbia, Canada, beekeepers has just completed a tour of the Hodgson honey packing plant with Mr. L. Cosgrove (white pants), plant superintendent. We are unable to identify all of the beekeepers shown here, but, standing almost beneath the honeybee painted on the side of the truck are (left to right) W. G. le-Maistre, John H. Baynes, and John Corner.—U. of B. C. Photo.



Transferring nectar. A field bee is shown transferring a load of nectar to a waiting housebee who will take it into a cell. The nectar is then reduced to the thickness of honey through evaporation.—Photo by W. W. Wittekindt, Bonn, Ger.

reel

They start them young in New Zealand. Nadene Pullin, two-year-old daughter of I. E. Pullin of Auckland, New Zealand, is making an early start at keeping bees. However, she appears to have the situation under control. Mr. Pullin, father of Nadine, is a commercial beekeeper, queen breeder, and honey packer, and a neighbor of Sir Edmund Hillary, the beekeeper who conquered Mt. Everest.



Beekeepers picnic in Tennessee. Left to right: Mr. and Mrs. John W. Buchanan. John is the Bee Supply Sales Manager for The A. I. Root Co., Mr. and Mrs. Leslie H. Little, Shelbyville, Tenn. Les is the Tenn. State Apiarist and on the Executive Committee of the American Beekeeping Federation. Unfortunately, we are unable to identify the other members at the picnic table.—Photo by M. Jennings.

XUM

The American National Honey Show at Springfield, Illinois

CARL E. KILLION, Paris, Ill.

Governor William G. Stratton, right, of Illinois, and Carl E. Killion, Paris, superintendent of the Bee Culture division, inspect silver plates awarded by the American National Honey show being held here this year. Governor Stratton holds the first place award and ribbon won by Henry F. Puppe, Nebraska City, Nebraska, and Killion has the Best Liquid Clover Honey trophy, also won by Puppe.

THE NATIONAL HONEY SHOW for 1955 is now over and plans to improve the show for 1956 are well underway.

My assistants and I found that the National Honey Show presented many problems that we had not experienced in the many years of working with our own State Show.

Some shipments of honey were late to arrive and the judging was delayed until the last possible moment. Two entries did not reach us until a day after the judging was completed.

We received 101 entries from eight states—Montana, Minnesota, Nebraska, Wisconsin, Iowa, Michigan, Ohio, and Illinois. We did not receive a single entry from three of our neighboring states, Kentucky, Indiana, and Missouri. Visitors from each of these states pledged entries for next year.

Three out-of-state winners visited the Fair to pick up their honey, ribbons, and trophies. I am expecting a report on the show from these exhibitors. It is hoped that each will give some constructive criticism so that improvements can be made before another year.

We had one problem that we could not do much about. There were some who requested that their honey be sold and money turned over to the Institute. All exhibits remained in place until the last day of the show. On this day the Fair visitors were in a large part sport fans who came primarily to see the auto races. The result was that all honey which was not claimed was recartoned and returned to the owners by Railway Express Collect.

I wish to make some suggestions to those who entered honey or who may

expect to enter at sometime in the future. This suggestion is that extra precaution be used in packaging the honey for either parcel post or express shipments. In all the shipments of honey to reach us only about three had properly cushioned their honey as an insurance for its safe arrival. My advice is to never ship comb honey by parcel post unless it is well packed with paper, straw, or excelsior thick enough on all sides to absorb the worst possible shock.

The honey and wax was shown in four large cases, eight foot long and four foot in width. These were built new by the State Fair. The culinary exhibits and trophies were displayed in two other eight foot show cases. All material was enclosed in glass cases.

The State Honey Show and National Honey Show occupied over half of one large building. The rest of the building was for the Culinary Department of our State Fair. We were well represented in this Department because they have a part for Honey Cookery. There were 158 items in Honey Cookery.

The total attendance at the Fair for 1955 was approximately one million, slightly less than a year ago. On two of the smaller days an estimated 20,000 people were through our building, the larger days about 85,000. One photo was taken in early morning soon after the doors were opened.

Each year we register beekeepers and find that they come from as many as 20 states and a few foreign countries.

I suggest that our Federation appoint a National Honey Show Committee to study and improve the show wherever possible. If the show is to continue we must have such a committee. In the past, practically all of the publicity and formulation of rules has been left entirely with each superintendent. Anyone who has ever served as such will know that they have their hands full in just handling the show itself.

Our National Honey Show should receive a fair share of discussion at the Biloxi meeting in January. I have every reason to believe that our National Honey Show held in connection with any state fair having a good attendence will be recognized as the Show Window of our industry.

Bee Yard Identification

W. A. DRIVER, Yankton, South Dakota

SOUTH DAKOTA State law requires some sort of identification marker at each bee yard to be attached to a hive at the end of a row, such as a water-proof card so that the inspector and others may know who is the owner, number of colonies, location, such as what quarter, section, township, and range. This is so any one may have the desired information without consulting the owner. This serves the same purpose as a license plate on a car.

A good scheme for this marker is a small clear glass jar such as a round one pound honey jar with screw cap. Use a thin white cardboard that is the length of the inside of the jar and as wide as the jar. Write the description on the card and roll it into a loose cylinder. If not rolled too tight it will expand when inside the jar so that one may read it through the glass. Screw the cap on tight then use a soft wire around the jar neck and tack the wire to the hive. The owner can easily take the card out to change anything on it without detaching the jar.

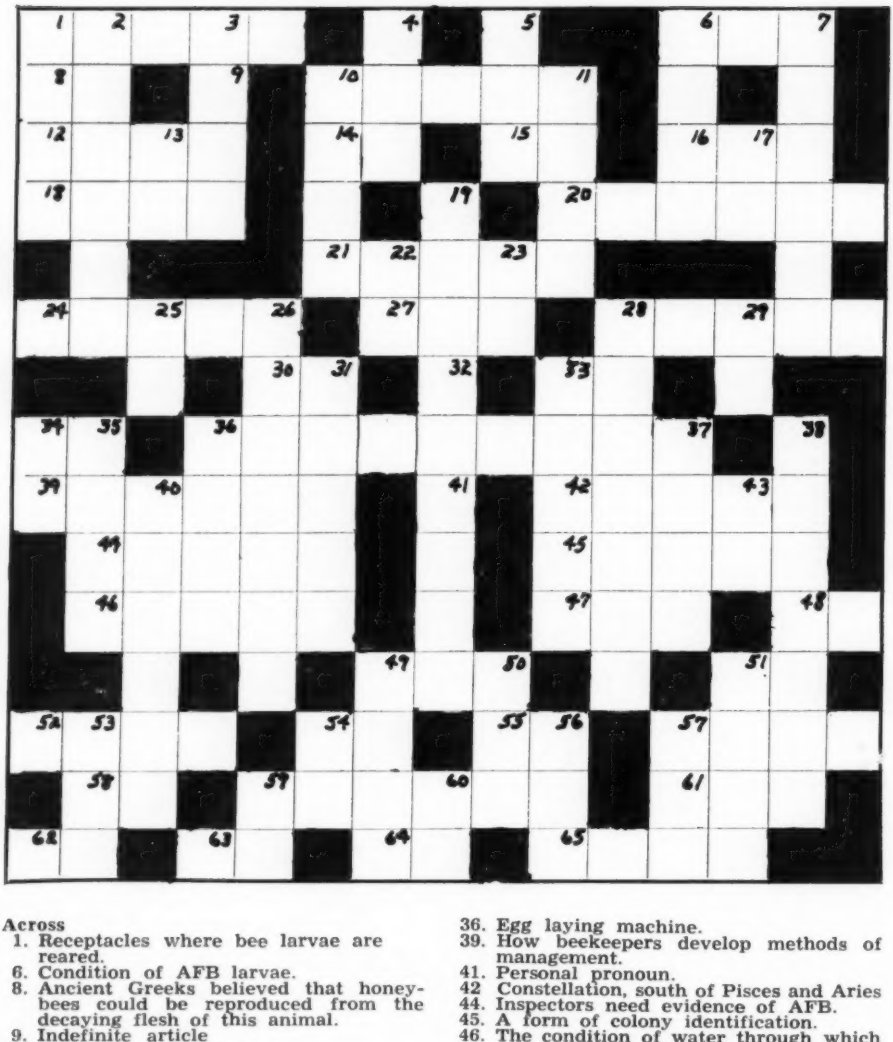
It is permanent, and water, dust, wind, weather, and bug tight. The card will not be smeared in winter when bees are taking their cleansing flight. The glass is easily cleaned on the outside and easily seen when tacked on the upper front of the hive.

Another scheme I use to number each colony for my own convenience, is to save up a number of out-of-date car license plates. With tin snips I cut the numbers off vertically and assemble them in order from No. 1 on up to as many colonies as I have. The numbers fit nicely on the outer rim of telescoping covers tacked on each end. Each cover stays with each colony regardless of whether the hive bodies are changed. It's a nuisance to paint the numbers on hive bodies. These numbers are enameled, won't rust, are neat, and can be changed easily and seen at quite a distance.

XUM

Beekeeping Cross-word Puzzle

MRS. R. P. SCHLABACH, Medina, Ohio



Across

1. Receptacles where bee larvae are reared.
6. Condition of AFB larvae.
8. Ancient Greeks believed that honeybees could be reproduced from the decaying flesh of this animal.
9. Indefinite article
10. Homes of honeybees.
12. A fermented honey beverage.
14. Neuter pronoun.
15. Personal pronoun.
16. The small seed of an apple.
18. Term that describes activity of bees.
20. Planer used to make hive bodies.
21. Compact, as a box of foundation.
24. A sharp pain occasionally endured by beekeepers.
27. An old fashioned bee veil.
28. Pale, brownish liquid found within adult honeybees.
30. Abbreviation of the volume of measure by which honey is sold.
32. One.
33. Abbreviation of a title held by many beekeeping scientists.
34. A measure.
36. Egg laying machine.
39. How beekeepers develop methods of management.
41. Personal pronoun.
42 Constellation, south of Pisces and Aries
44. Inspectors need evidence of AFB.
45. A form of colony identification.
46. The condition of water through which beeswax must pass before being made into foundation in the Weed process.
47. Word of agreement between beekeeper and honey buyer.
48. Printer's measure.
49. Landing boats.
51. Upon.
52. Condition of laymen watching beekeepers at work
54. Denial of having AFB colonies.
55. Preposition meaning within.
57. Originator of a creamed honey process.
58. Adverb meaning, for instance.
59. Small colonies.
61. Tumeric (variant)
62. Preposition, out of.
63. River in Italy.
64. A maiden loved by Zeus.
65 The reason many keep bees.

Down

1. A collection of cells that normally contains brood and/or honey and pollen.
2. To retire from beekeeping.
3. Wife of a beekeeper.
4. Unit of money used by beekeepers in Lithuania.
5. Moisture condensed on beehives on a cool morning.
6. Material used in moving bees.
7. Honey plant that secretes a nectar very high in levulose.
10. A sound reserved by beekeepers just for the arrival of the bee inspector.
11. How most honey plants reproduce.
13. As—in equal degree.
17. Preposition—into.
19. Bee magazine started in 1873.
22. Adverb—forward.
23. One player in a game of tag.
25. Pronoun.
26. A sugar found in nectar.
28. A beekeeper who raises queens.
29. An exclamation.
31. General appearance of a drone
33. An empty hive placed in an apiary to lure swarms.
34. Means of selling bee equipment through the bee journals.
35. Kind of cloth.
36. Prison (slang).
37. Portico.
38. The aroma of newly extracted honey.
40. Fleshy fruit with single seed.
43. Biblical town.
49. Locality (pl.)
50. To fasten a load of bees.
51. Attend.
53. Substance secreted by bees.
54. Greek letter.
56. Worker bee handling some beeswax.
57. Condition for a poor honey flow.
59. Japanese drama.
60. Behold.

NOTE: Readers are invited to send in crossword puzzles using beekeeping terms. Payment will be made on publication —Editor.

The completed crossword puzzle appears on page 699.

You Can Catch Bees Alive

JO STEPHENS, Chevy Chase, Maryland

WHILE LISTENING to a nation-wide broadcast recently I heard a dispenser of knowledge inform his audience, in reply to an inquiry, that there is no way to catch honeybees alive. He had checked with various apiarians and learned the only way to get rid of unwanted bees was to use the services of an exterminator.

This quizmaster is wrong. There is a way to catch bees alive—a method so simple no one has thought of it before: Just use the tube of your vacuum sweeper to draw them into the bag—then empty the bag where you would like to place the bees. You'll find them unharmed. I learned this when I opened the bag too soon. Not wanting them alive, I postponed emptying the bag.

I stumbled onto this strategy through the trial and error method. When we first moved into our present home we discovered a honeybees' nest between the ceiling and roof of the screened-in porch. By stuffing holes of entry with old cloths, we learned the bees would come onto the porch—hundreds and thousands of them. By batting themselves senseless against the screen they finally fell to the floor dead of exhaustion. We then swept them into buckets for disposal.

Probably two months of daily battle was waged before we were allowed to use the porch ourselves. By the end of summer we learned our efforts had paid off—the bees were gone but so was the porch-sitting weather.

The next spring, however, I heard a buzzing, droning sound and discovered, too late, another swarm had re-entered the old nest.

I called the fire department, only to hear a fireman say as he relayed my message to one of his co-workers, "Hey, a lady's in distress—bees on her porch!"

Getting no help from them, another battle of bee fighting began. Exterminators had said the porch ceiling would have to be torn away, yet I felt there must be a simpler way.

One afternoon when returning from a picnic I discovered I had left the living room door open adjoining the porch. The bees had taken over the living room as well as the porch—swarms of them, with many crawling on the floor. I grabbed the sweeper, cleaning up all the floor crawlers and then I staged my strategy for those in the air, the majority of which had congregated on the windows. Soon the living room was clear. I moved onto the porch clearing bees as I went and then on to their nest.

I placed the tube of the sweeper at the hole of entry; and every bee that tried to enter or leave found himself in a whirlwind of air being sucked into the sweeper bag.

Of course, I didn't want the bees—dead or alive—so I closed off all air by stuffing Kleenex into the sweeper tube.

The next time bees try to take over your home, turn the sweeper on them. A half hour's running will catch all.

XUM

FROM Foreign LANDS

Translated and Edited by Erika Barth

Source of Beeswax?

A BEEKEEPER had just given his daughter a piece of comb to take to school for the "Nature table".

"Is this beeswax?" she asked, and then after looking at it for a few moments—"How do they get it out of their ears?"

British Bee Journal. Aug. 18, 1955.

Be Careful of Royal Jelly.

THE EFFECTS of royal jelly, which are not always beneficial, were reported by the Humbolt University of Berlin in an article called "The Effect of Royal Jelly on Mammals". The article was supplied to Dr. H. M. Fraser, the renowned beekeeping historian, and it is hoped that the British Bee Journal will reprint it.

In this German report, accounts of 14 different experiments are given. Subcutaneous injections of royal jelly were given to three pregnant hares and none brought forth living young. On the other hand, young suckling mice weighed more than those which were not injected with the royal jelly solution.

Even in view of this short account of the research of the German investigators, it should be obvious that no one should consume royal jelly without the advice of a physician.

British Bee Journal. Aug. 25, 1955.

What Controls Guard Bees?

THE ACTIVITY of guard bees is a chain of instinctive reactions. The odor of a strange worker bee causes bellicose behavior in the guards, whereas according to present experiments, insects of different species are chiefly recognized by wing frequency. Anyone of these stimuli may lead to an attack, a combination of different stimuli not being necessary. Usually, it begins with a menacing attitude, followed by a scuffle, ending with the kill of the adversary. The menacing bee produces a certain sound with its wings, very similar to or identical with the alarm tone, and with the same effect.

Most bees, immediately before landing, open their scent glands, apparently facilitating recognition.

The colony odor presents a certain uniformity within the hive, it is chiefly a result of the actual flow (Kalmus & Ribbands, 1952). Equal feeding of an apiary cancels specific colony odors and leads to a common "apiary odor" in various colonies which makes recognition difficult and causes mistakes. **Robbing may be avoided by adding different essences to the syrup.**

Zeitschrift fuer Bienenforschung, July, '55.

Who Controls Egg Laying?

ACCORDING TO Rud. Meier, Regensdorf ZH, only the queen decides upon the sex of its eggs. It happens at times, however, that the egg-laying organs of the recently mated queen are not functioning properly and that she lays unfertilized eggs in worker cells. This weakness usually corrects itself in a few days. The beekeeper can recognize this condition when the bees close the cells with a strikingly high lid.

Schweizerische Bienen-Zeitung. July 1955.

International Meeting.

THE XVI International Beekeeping Congress is scheduled to be held in Vienna on August 12th to 18th, 1956. Gleanings readers will remember that the last successful Congress was held in Copenhagen, 1954. Incidentally, the first Congress was held at Brussels, Belgium, in 1897. (See also page 690.)

British Bee Journal. Aug. 18, 1955.

Live and Learn

by Propolis Pete

LAST YEAR the late flow from aster and goldenrod was pretty much of a flop, but this year is different. The failure last year was pretty expensive. The bees got just enough so that the top bodies were fairly heavy — just heavy enough to make me think that maybe the bees had enough. They didn't. I had to start feeding dry sugar while it was still winter, and even the ones that came through were so poor in stores that I doubled up a couple and kept feeding way into apple blossom time.

For a time during the past summer I was getting a little anxious. I generally extract around the first of August, and then leave the entire fall crop for the bees. It was a dry and hot summer here, and while I thought I left plenty to last until the fall flow started, the bees didn't get anything at all until recently. The nectar plants were so badly damaged before the rains came that the colonies lost weight steadily until the middle of September. Then the guardian angel of beekeepers pulled the plug. Now it's really coming in. You should smell it.

On the 4th of July, my observation hive had a shallow frame full and capped. The brood frame was about three quarters full of brood and the balance also was capped honey. As a matter of fact I was trying to dope out how I could get the frame of honey out of the thing so that I could put in an empty frame for them to work in. They had it so glued in with propolis, wax and burr comb, that I just could not budge it. I was afraid of breaking the hive if I pried it out. When the hot weather started to help out the drought, I noticed that the bees were uncapping the honey in the surplus frame. Gradually it melted away, and eventually they used it all up, plus the honey that was in the brood frame. I kept close watch, and was just getting ready to feed them shortly after Labor Day when I noticed that there was a little thin nectar in the combs around the brood. They just barely held their own for a bit, and then all of a sudden it started to come in. The population of this observation hive was down to a couple of handfuls of bees by now, but the way that they have been putting it in sure gives me a comfortable feeling about what the producing colonies are doing.

I wonder how many beekeepers use their observation hive as a production tool. It is true that a big colony does things that a few bees on one comb cannot do, but if you are observant you can tell pretty much what is going on in the full colonies by watching what is going on in an observation hive. You cannot go pulling the big hives apart every day to see how the bees are doing. But you can take a peek through the glass of an observation hive every day, or two or three times a day if you choose, without upsetting everything. When a couple of hundred bees can fill a couple of hundred empty cells with nectar in an afternoon, you can be pretty sure that twenty thousand bees can fill a couple of frames in the same length of time. And, if you take the fall honey as surplus, you have to have enough supers on the hive to handle the thin stuff if you want to make a crop.

Maybe in some sections of the country conditions are such that a beekeeper can tell pretty much what is going on without any aid of this kind, but it sure helps me. My bees depend upon a little from each of many kinds of honey plants. There is nothing plentiful enough by itself to give a crop. That is why my honey varies so much from one year to the next. A good year for one plant flavors the whole crop in that direction. Some years my honey doesn't crystallize at all. Other years it sugars as early as the middle of October. I generally keep a sample of each year's crop, and some of them from as far back as 1936 are still liquid. They have turned as black as tar, but excepting for a small deposit on the bottom they are as liquid as when put up. Last year's sample was solid by October 15th. So maybe I am in a different position than you, but an observation hive most assuredly is a big help to me to know what is going on.

XUM

American Honey Institute News Notes

HARRIETT M. GRACE, Director
Commercial State Bank Building, Madison 3, Wisconsin

New Honey Literature

WHEN YOU read this a new Holiday Honey Cookery folder should be off the press. The front cover will have a beautiful picture of the finished products. The recipes in the folder are for the following:

Glazed Christmas Cookies
Christmas Jewel Boxes
(Baked in muffin pans or paper cups)
Poinsettia Balls
Victory Fruit Cake
Fruit Cake Cookies
Christmas Honey Stars

How many will you distribute? This assortment of cookies and cakes will be a boon to the homemaker and to the honey folks. Write for a sample of this six-page leaflet. We do not have the price at this writing. The price to you will be but the cost of printing. You can well imagine the cost of producing these recipes that have been approved by experts and the cost of the beautiful cover photograph.

Honey Books

Have you purchased and distributed A.H.I's new 32-page Honey Cooky booklet? $6.00 per 100 is the cost, 10 cents per copy, or 12 for $1.00. The back cover is left blank for your use in imprinting your brand of honey.

Old Favorite Honey Recipes

This book is still a best seller. You can do an enormous piece of promotion by distributing it. It needn't cost you a penny. You can purchase it at $15.00 per 100 (at the present time) and sell books at 25 cents each.

Just to illustrate the effect of one book: The manager of a business firm in California writes; "I purchased a copy of Old Favorite Honey Recipes at the Pomona Fair. We like it so very much that we are considering using it as a Christmas present for our customers. Will you kindly quote prices on 100 and 1000 quantities"?

That is but one letter. It came today. A.H.I. has had thousands of such letters. Every honey producer should plan to distribute as many of these books as he possibly can. Old Favorite Honey Recipes creates a demand for the continual use of Honey.

The Cub Scouts had the study of beekeeping as their theme for the month of October. A.H.I. has been pleased to help furnish material and suggestions for this event.

The youngsters are counting the days until Christmas. Perhaps we should. At least we can include the Holiday Honey Cookery folders in our mailing and for gifts, think of Honey, Honey Fruit Cake, or delicious Honey Cookies. Please remember the Honey Cook Books.

Director Harriett Grace asked a nationally known business man, who is president of his firm, to what he attributed his success and he answered "Always keeping my name before the public." Do **you** keep your Brand name before the public?

Australian Visitor

Mrs. I. O. Jackel, of Wangaratta, Victoria, Australia, a commercial beekeeper recently visited Gleanings. She is shown here with Mr. H. H. Root, president of The A. I. Root Company.

Bee Facts

(A Digest of Scientific Research)

Edited by Walter Barth

Are Bees Resistant to EFB?

THE PRESENCE of European foulbrood bacteria in certain healthy colonies indicates that these stocks possess a certain "resistance" in relation to the degree of infection. So reports V. I. Krasikova in a translation by A.S.C. Deans (Ptchelovodstvo. 1954. No. 7, pp. 35-38) for the SCOTTISH BEEKEEPER.

"The penetration of larval tissue by bacteria upsets normal conditions and stimulates activity of the larvae's defense mechanism. This results in a reduction or elimination of the harmful effects of the bacteria. Normal larval conditions are thus restored and infection does not arise. This result depends, of course, to a considerable degree, on the general condition of the colony and similarly on the condition of the larvae.

"Practice shows that in apiaries on those farms which experience good honey flows and where colonies are maintained in good condition, E.F.B. is present. Because of the presence of bacteria in certain healthy colonies infection may arise in particular cases if normal methods of colony management are not observed."

The Scottish Beekeeper. June 1955. Pp. 118-119.

Want to Avoid Bee Stings?

IF YOU want to avoid bee stings then you will want to read "Bee Stings and How to Avoid Them" by H. M. Pearson. This 51-page book can be purchased for 4s. 6d. from the British Bee Journal, 1, Gough Square, London, E.C.4, England.

Best Treatment for Bee Stings.

Q. What is the best treatment for bee stings? I am a member of a bee club and have been asked for advice.

A. Bee stings may result in a local reaction due to the injected bee-venom, a more generalized allergic reaction, or both. The sting should be gently removed. Local therapy consists in the application of an antihistaminic ointment: various alkali solutions are also of help—for example, soap, sodium bicarbonate, methylene blue, weak ammonia, or calamine. For the milder urticarial reactions an antihistaminic drug, preferably one that does not cause drowsiness, ephedrine, or a combination of these two should be given. For the severe allergic reactions, angioneurotic oedema, severe dyspnoea, collapse, or unconsciousness, 1:1,000 adrenaline should be given in doses of 5-10 min. (0.3-0.6 ml.) and repeated as necessary. Some sensitized beekeepers have found taking a small dose of ephedrine prior to handling the bees a means of reducing the severity of their reactions. All might well be advised to carry with them ephedrine and an antihistaminic to take as soon as they are stung, while the more severely affected should carry isoprenaline.

"Desensitization" or hyposensitization presents a series of difficult problems which are well discussed by Mueller and Hill, of Boston.[1] Isolated successful cases have been recorded, but it is not known for a series of patients what proportion would be adequately protected nor for how long the protection is likely to last once the injections are stopped. Bee-venom antigen is available from commercial firms, but skin testing and hyposensitization should be advised and carried out by an expert, for the antigen is a potent one. As in the treatment of hay fever, the dosage depends on the degree of sensitivity and even in skilled hands carries some risk of untoward reactions occurring. One might expect the results to be similar to those of hyposensitization to hay fever and other immediate wealing allergies.

[1]Mueller, H. L., and Hill, L. W. (1953). New Engl. J. Med., 249, 726.
Brit. Med. J. p. 1296 (May 21, 1955). Treatment of Bee Stings.

XUM

A Talk to Beekeepers

M. J. Deyell

This and That

This talk will consist of some experiences I have had with bees, also opinions regarding some phases of beekeeping which have developed during the years.

Don't Kill Bees Unnecessarily

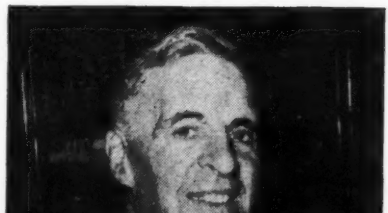
LAST AUGUST, while on vacation, driving along one day I noticed two men working bees in a grove a short distance from the highway. I always carry a bee veil in my car, so I pulled off to the side of the road and walked over to where the fellows were working. It is a good thing I wore a veil, as the bees were not in a good mood that day. Some honey was coming in, but not rapidly enough so that the bees could be handled easily.

The men, one standing on each side of a hive, were inspecting bees. The man who lifted the supers and upper brood chambers off, placed them on a metal telescope cover with the flat side up. This naturally killed quite a number of bees that clustered on the bottom bars of the frames. The operator should have turned the metal telescope cover upside down and placed the super crosswise on the telescoping rim so that there would have been some space underneath the frames in each super to avoid killing any bees.

I asked the beekeeper if he objected to my making a suggestion. He was very nice about it and said that he was always willing to learn. When I suggested that he turn the telescope cover upside down before placing the super on it, he did so. Whether or not he would continue doing this after I left, I do not know.

I also noticed that each beekeeper would take a comb containing adhering bees and lean it up against another hive or perhaps a small tree until other combs in the hive had been examined. The queen might be on one of the combs that were set outside the hive and she might be lost in the grass.

When removing the first comb from a brood chamber, I stand it at the front corner of the hive, quite near the entrance, but not directly in front to interfere with the flight of the incoming



M. J. Deyell

bees. Should the queen be on this comb and crawl off on the ground, she could easily get into the hive. If the comb was placed back of the hive, a queen might be lost.

Nylon Stocking for Straining Honey

A few years ago we carried a short article in Gleanings concerning a beekeeper in California who strained his entire honey crop with a nylon stocking. This past season I tried this method. It worked quite well for a time. The honey was pumped out of a large extractor into a sizable tank. The open end of the stocking was tied tightly around the end of the pipe that delivered the honey into the tank. The honey was thus forced through the stocking. Of course, I had to remove the stocking and turn it inside out periodically to get rid of bits of cappings and other foreign matter that accumulated. However, after a time the stocking developed a run and it had to be replaced with another.

I suspect there are quite a number of different kinds of nylon material, some stronger than others. I intend to give this method a further trial some time in the near future.

Taking Away Too Much Honey

This is a common fault among beekeepers. In most instances they remove all of the honey in the supers above the

queen excluder and assume there is a sufficient amount of honey in the brood chamber below for winter stores.

In previous talks I have mentioned the feasibility of putting the queen down into a single brood chamber below the queen excluder, during the latter part of the season, leaving the food chamber directly above the queen excluder in order to help insure having it well filled. I still think this is a good idea, especially in regions where there are no late summer and fall flows of any consequence. However, in localities where there are heavy fall flows, it seems feasible to leave the queen excluder above the double brood chamber, placing supers above the excluder. Bees will usually fill the upper chamber with honey and drive the queen down into the bottom chamber, especially if the nights are cool.

Standard Brood Chamber Large Enough for a Queen

TEN STANDARD combs of good quality worker cells will hold all the brood a normal queen is capable of producing. There are approximately 7,000 cells on both sides of a standard comb. It has been found that a queen may lay between 1500 and 1600 eggs per day during the height of the season. On the basis of 1600 eggs per day for 21 days, this would make 33,600 eggs Assuming that each comb contains between 5,000 and 6,000 perfect worker cells, it is apparent that six or seven good combs would supply ample space for the average queen during a cycle of egg laying which is 21 days. At the end of 21 days, the queen will start another cycle of brood in cells from which the youngest bees have emerged. In a 10-frame brood chamber, we usually find the two outside combs filled with honey and pollen.

Even though a single story brood chamber will accommodate a queen during the time of the year when she is laying heavily, it is not large enough to hold the amount of honey and pollen necessary to carry the colony through the winter and spring months until nectar is available in quantity.

In considering wintering requirements for a colony of bees, there should be five or six combs of pollen and at least 60 or more pounds of honey. Colonies will winter on a lesser amount of honey and if the backlotter watches his bees in the spring he can feed them if necessary. The beekeeper with outapiaries should have an abundance of stores in each colony for it is during early spring months that honey in the brood chamber disappears like magic, as it is converted into bees. This amount of pollen and honey mentioned could not be crowded into a single brood chamber standard hive. That is why the double brood chamber has come into use quite generally. Such a hive provides ample comb space for an abundance of honey and pollen for winter and early spring stores, also for brood rearing. Some beekeepers are now wintering in three-story hives.

Increase Made Easy

In the average apiary, it is not uncommon to experience some winter loss, possibly five or ten per cent. This is because of poor queens or starvation.

Hives in which colonies died during the winter should be taken care of promptly in the spring in order to prevent the bee moth from destroying combs. The dead bees should be cleaned out of the hives and packages of bees with queens put into them during early spring, if the beekeeper is desirous of maintaining the full number of hives in his yard and securing the maximum crop of honey.

Another way to make up winter losses is to remove the upper chamber from the hive in which a colony has died, then set a food chamber with bees, brood, and honey from a strong colony, on top of the lower chamber. If the queen happens to be in this brood chamber set on top, all well and good. We do not try to find queens. The portion of the colony left on the parent stand will rear a queen, provided there is some brood in the combs of the lower chamber and enough honey for food. If this work of making up increase is done at the beginning of a honey flow, there will be no robbing. Furthermore, the divisions will make rapid headway. If the food chamber set onto the empty hive does not have a queen, the bees in the hive will rear a queen in about 21 days.

Last spring we tried this method and found it quite satisfactory. For bee-

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A snow fence and hives with paper protection.
—Photo by M. W. Kosanki, Wisconsin.

keepers who do not wish to buy queens and are desirous of maintaining the original number of hives in each yard, this method of making increase works out quite well. If there should be a dearth of nectar after the dividing is done, it may be necessary to do some feeding.

Unless colonies are very populous in the spring, dividing them tends to reduce the amount of surplus honey secured at the end of the season. It goes without saying that when using the method suggested that food chambers should be taken from very populous colonies. Such colonies naturally have good queens and by using this method, the beekeeper is propagating good stock.

Some say that emergency queens reared by the method suggested are likely to be inferior. I have never found them so.

Salvaging Wax

It is one thing to talk about doing something and still another matter to actually do it. We had thought of carrying along a metal container into which we would put bits of burr comb and wax as we manipulated colonies. We failed to do this and lost some valuable wax. It would be a simple matter to carry along a metal container with a lid into which to put bits of burr comb found in hives. I did this while keeping bees commercially in Michigan some years ago and it was surprising the amount of wax I salvaged. Wax is almost worth its weight in gold—over three cents an ounce. Thousands of pounds of wax are wasted or lost each season.

A few months ago, after finishing extracting the summer honey, I noticed that there was a considerable amount of wax adhering to the top and bottom bars of frames containing combs that had been extracted. I took time to scrape the top and bottom bars with a hive tool and was surprised at the amount of wax I collected. Aside from securing the wax, the frames are clean and in better condition for the coming season.

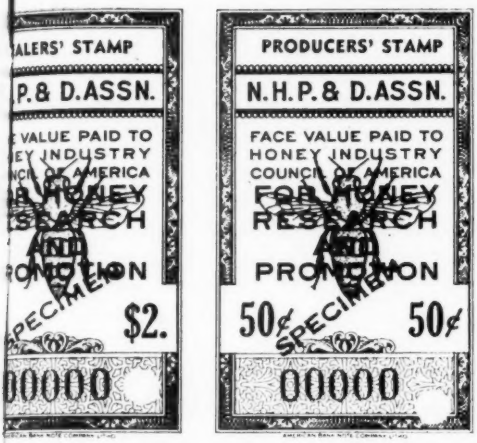
Asters

There are many species of aster over the country, especially east of the Mississippi River. It is one of the last sources of nectar in the fall. Colonies usually fill their brood chambers with aster honey as the last cycle of brood emerges. As a matter of fact, aster is a life saver for many beekeepers in areas where other fall sources of honey fail.

Some believe aster honey is inferior as winter bee food. However, the consensus now is that aster honey well ripened and sealed is an excellent winter food for bees. Occasionally cold weather sets in directly following a late aster flow and the bees are unable to properly cure the honey. This situation is likely to result in dysentery and poor wintering, especially if protracted cold spells occur during the winter.

The Check Off Plan—How It Works

R. B. WILLSON, New York City, N. Y.
Reprinted from "The Honey Pot"



Here are two samples of the check-off plan stamps in actual size.

THIS PROJECT, which somewhere along the line picked up the name of the "Check-Off Plan", had its inception at the annual convention at San Jose, California, in January 1953, when that stalwart among our leaders, John Holzberlein, very much by himself, put over the idea of the necessity of a Honey Industry Council which we now have. The Council won favor and support, not only for its potential value to counsel and represents, wherever needed, the entire industry but because it could and should find ways and means to raise more money for honey promotion and research. In the meantime, The American Beekeeping Federation under President Henry Schaefer representing the American honey producers, has not only been supporting the plan but has been insisting on it.

The plan to raise funds for honey promotion and research is strictly a voluntary affair. The packer or dealer who has agreed to operate under the plan invites the producer from whom he buys honey to join in by permitting him to deduct from the payment for his honey one cent per 60 pounds which will be matched by the packer or dealer with one cent per 60 pounds. On the purchase of 30,000 pounds the producer would agree to a deduction of $5.00, the packer or dealer would match it with $5.00 of his own, and so $10.00 would have been raised for the fund.

As evidence to the producer that $10.00 has been paid into the fund for honey promotion and research, he will receive from the purchaser of his honey, stamps totalling $10.00 in value—$5.00 of producers' stamps and $5.00 of dealers' stamps for which the dealer has paid cash in advance to the Honey Industry Council.

These stamps are of beautiful design in blue for producers, a rich brown for dealers and in denominations of 25c, 50c, $1.00, $2.00 and $5.00. They are made by The American Bank Note Co. and each stamp will be numbered when printed to facilitate record keeping and for all around protection. This stamp can be ordered at once from the Secretary-Treasurer of the Honey Industry Council of America, Mr. Leslie Little of the Tennessee Bee & Honey Co., Shelbyville, Tennessee. Mr. Little is bonded for $25,000 which it is estimated is the maximum amount of funds he would ever have in his possession at one time. A minimum transaction shall be for 50c from each, so that a deal for 600 pounds of honey would add a minimum of $1.00 not 20 cents. In like manner, a 30,000 pound transaction would add $5.00 from each or a total of $10.00, and 30,600 pounds would add $5.25 from each, or a total of $10.50, since we have a minimum value for stamps of 25 cents.

There is neither intention nor desire to have included any honey on which a tax of 25 cents for honey promotion is already being assessed as in California or Colorado. Packers and dealers in those states who have signed up to support the plan would be expected to bring only out-of-state honey not subject to their states' taxes under our own plan.

No duplication anywhere is intended. Any question regarding the plan should be directed to the Secretary, Mr. Roland Stone, 5201 District Blvd., Los Angeles, California.

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From the Field of Experience

Sedum—A Late Fall Bee Plant

FRANK WELLS, Ripley, Oklahoma

A FEW YEARS ago, in October, I noticed a clump plant clustered with small flowers, inside my home apiary bee yard. I didn't know what it was at that time but the bees seemed to indicate that it was a honey plant.

Even though I searched all fall, I never found another plant like it, neither could I find out what it was.

I saved what I thought was seed but nothing came up where it was planted. The next fall I pulled out some of the buds, pushed them into the ground and to my amazement they started to grow.

Late that fall I pulled some more buds and put them in a metal aspirin box. After leaving them on my back porch for a couple of days, I opened the box to find the buds almost as fresh as when they were pulled. So I put the box in an envelope together with what information I had about the plant and mailed it to Melvin Pellett in Iowa. He was unable to identify the buds immediately, but started them indoors with the hope of identifying them as they grew.

A year later they sent me a picture of one of the plants in bloom with the bees working it. It was identified as a variety of sedum.

In his efforts at identifying the plant he found that some varieties of sedum were not uncommon in flower gardens. He mentioned that he had a short row in his garden from the buds I had sent.

In a letter the next summer, he said they liked sedum plants in their honey plant garden and was quite pleased that they had wintered and looked well.

From my own experiments and research and from observation I find there are several species of sedum, which are kin to the large herb family. They bloom in either yellow, pink, or white. The specie I have, has a white blossom.

The bees are very much attracted to the large numbers of small, clustered blooms for about two weeks in October here.

This specie is not drouth resistant but is winter hardy, at least as far north as Pellett Gardens in Iowa.

It doesn't compete very well with other plants when starting but an old plant will continue to thrive without cultivation if it gets sufficient moisture.

You May be the Cause of Your Honey Fermenting

W. B. CRAWFORD, JR., Atlanta, Ga.

IN THE SEPTEMBER issue of "Gleanings", one of the questions in the "Asked and Answered" section dealt with fermentation in honey. Most beekeepers think fermentation is due to green or unripened honey, a peculiar flow, or weather conditions. No doubt these may sometimes be factors, but I believe the beekeeper himself is at fault most of the time in not being careful with water around his honey. Do you use the old style steel uncapping knife, heating it in water, wiping it off with a towel or cloth, then uncapping your honey? The knife may not be thoroughly dry. If this is the case, you are responsible for the fermentation of your honey.

Why not prevent this by investing in a quality electric or steam uncapping knife? This investment will pay out the first time you use it as it will make your uncapping easier and protect your honey against the possible loss. Some folks like one knife, some the other; like everything else both have advantages and disadvantages. Both are about the same price (if steam kettle is bought with steam knife), both do a good job. However, the steam knife makes the room hotter to work in, but it is lighter in weight. The electric knife is sturdily built but is subject to electrical failure and overheating which will fleck or burn your money. So why not remove this possible cause of fermentation and get yourself a good electric or steam knife, thereby eliminating this use of water around your honey.

Why the Eastern Apicultural Society Was Organized

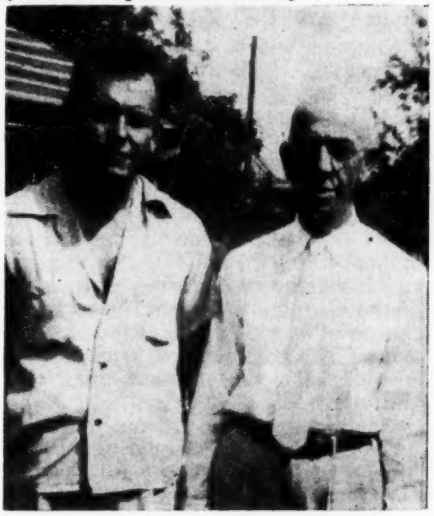
J. GASTON LEVITRE, President, Eastern Apicultural Society

NEED OF AN organization for the back-lotter is greater now than ever before. Only through a national organization of this type can the complex problems of beekeeping be studied and solved, utilizing the experiences of so many. For example, 100 beekeepers with one colony per, can observe, learn and discover more than one beekeeper with 100 colonies. There lies a concentration of beekeepers, with a wealth of time-tested methods, valuable to modern beekeeping. The hobbyist speaks, lives, and spreads his enthusiasm of beekeeping to the consuming public in a more effective manner than ordinary publicity. It is therefore apparent that he is an important agent in publicizing honey, as he numbers tens of thousands.

If honey was properly publicized, our annual production would be inadequate to meet the new demands. Coordination amongst all groups and a sober understanding that nobody will rescue the industry from its present plight except the beekeeper's determination and renewed interest, these are thoughts to keep in mind.

A strong hobbyist organization is needed to stimulate interest, to foster research, to promote consumption of honey. This would by no means detract from the essential contributions to beekeeping by the American Beekeepers' Federation. On the contrary, our combined efforts could serve to solve problems in beekeeping and marketing.

The hobbyist must feel that his needs are being met and understood by a group like himself, for his problems and his interests are always similar to theirs.



On the left is J. Gaston Levitre, president of The Eastern Apicultural Society and M. H. Bosworth of Massachusetts.

We need the experience and favorable acceptance of the American Beekeeping Federation as a mutual group dedicated to serve the progressive needs of beekeeping.

The hobbyist is an adventurer at heart for otherwise he would not have taken up the study of bees seriously. This, plus his keen interest when properly channeled into the new society, will do much to assist him with his problems and serve the best interest of the honey industry as a whole.

It's An Idea

MILTON STRICKER
Annandale, N. J.

To Make Your Bee Meeting More Interesting

THE NEW JERSEY Beekeepers' Association finds most attendence and interest when they center their meeting around transferring colonies from cross comb hives to modern equipment.

The XVI International Beekeeping Congress

PROF. DIPL. ING. E. PLANCKH, President Austrian Beekeepers' Association
(translated by Erika Barth)

THE XVI International Beekeeping Congress will be held during August 12 to 18, 1956 in Vienna, Austria. DDr. h.c. Ing. Julius Raab, the Austrian Chancellor, will be the patron. All persons interested in attending please make a notation of this date.

The Congress committee would like all scientists and all other persons who know of new and interesting methods in beekeeping to send in manuscripts which will be read during the sessions of the Congress. These written reports can be of scientific as well as practical value. The committee will try to have a well balanced program of science and practice.

Submitted reports are not to exceed 200 words and must be written in one of the official languages used at the Congress (English, French, or German). It would be appreciated, if possible, to have the manuscripts typed and double spaced. Please notify the committee of any reports by January 1, 1956, and send in these manuscripts by March 31, 1956. Please do not send reports later than this date.

The committee reserves the right to choose, from among the submitted reports, those that will be of interest to the Congress and to eventually ask the author for a written supplement of double the extent of the original report.

The manuscripts as well as all inquiries are to be sent to the following address: Secretary, XVI International Beekeeping Congress, Austrian Beekeeping Association, Vienna I/1, Austria.

Honey and Its Price

CONSTANCE M. CARR, New York, N. Y.

THE INDEX of Gleanings in Bee Culture usually starts off with The Price of Honey, or The Honey Market, and as I am now a consumer only, not a producer of honey, I believe I am even more interested in that section than heretofore. Guess why.

My experience in New York City is that one can find a pound of honey for any price from 35c to $2.00, but the really hard thing to find is a bottle or tin of honey that is twice alike. Comb honey is mighty hard to find, but one day I was lucky and discovered in a small uptown grocery an absolutely perfect comb, or section as the books insist on calling it, for 59c. It was perfect as to flavor, perfect as to comb, and perfect as to packaging, but I searched in vain for the name of the producer. There was no name, no weight, and no grade. The carton was a most attractive one. I had hoped to be able to re-order, but no luck, for even the grocer had not the faintest idea where that honey came from!

In a large department store I found a bottle of chunk honey, also 59c for one pound. It was put up under a brand name by a large bottling company. This too was excellent honey, but I can't duplicate it. On the same shelf were more bottles, but they varied as to color and content.

In a little food shop near Greenwich Village I found just once, some of the little two ounce squares of comb honey for 25c from the apiary of Mr. Mraz in Vermont, and I pounced upon them, for I had met them last year in Massachusetts, and enjoyed them tremendously. I was not disappointed this year in the flavor, but disappointment came when I returned for more and like Oliver Twist, got none. I wish these small combs were on the market in quantity, for they are so charmingly packaged, and the honey so delicious that they make the ideal gift for invalids, shut-ins, friends who live in tiny apartments, and they are specially nice for that person "who has just everything."

Comb v.s. Extracted Honey

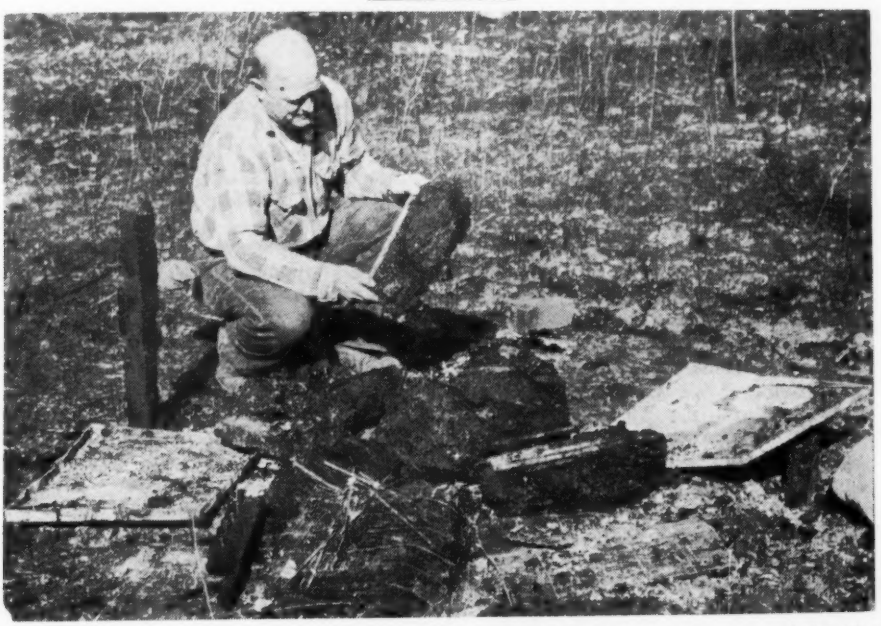
The question of the merit of comb honey versus extracted honey or creamed honey will never be settled, it being so largely a matter of personal preference. Having had my own bees, however, and their wonderful combs, also having extracted much honey, and now having had to buy honey here, there, and everywhere, it seems to me that comb honey keeps its delicate flavor

indefinitely, and that honey put up in bulk by large companies loses about 60 per cent of its original flavor, due I believe to its having been blended with many honeys, and processed, that is, heated to 160 degrees to help postpone granulation. You just can't match the flavor and aroma of warm and golden honey when first taken from the hive on a warm and golden summer day. Can't someone discover a way to capture that elusive and intriguing "something" that honey right out of the hive possesses, and that no heated honey retains even for one day?

An Amusing Experience

I had an amusing experience trying to sell a small crop of honey, not to mention extracting it and packing the bees for winter in just three days before leaving Nova Scotia for New York. I did not have enough containers on hand, and had no way of getting more in a hurry, so I put an advertisement in the local paper offering my honey at a bargain, if people would b r i n g their own containers. They brought them!—by truck, car, bicycle, ox team, and on foot, milk bottles, pickle bottles, jam bottles, coffee tins, flour tins, pails, crocks, cans, anything with a bottom and sides. Three hundred pounds went in a day, and I could have sold three times the amount.

The marketing problem is immense for commercial apiarists, and I know full well that the industry could not survive without large plants to do the processing and packaging, and many do a grand job, but with some there is room for improvement. I do not see why we can't buy a truly top grade of clover, basswood, or clethra honey for example, for less than 50c or 75c a pound in this city, when clover honey is advertised for 17c in a 60-pound can. Surely the middlemen get more than their share, or there are just too many middlemen, and the poor apiarist gets far, far too little. I hesitate to write to a large producer of honey for just one or two cans of honey, for I feel that their advertisements are beamed to the large bottling companies, and not to an individual consumer, and I would hate to be caught with say even five pounds of honey that was "indifferent", to put it mildly. As always there are two sides to every question. I hate to pay so much, and I hate to have the beekeeper paid so little! What can we do about it?



The result of a brush fire. Otto Kosman of Parma Heights, Ohio is shown examining the remains of a strong colony that was trapped in the path of a brush fire.—Photo by John W. Buchanan.

B & Z Library

Just News

The Preservation of Honey by Ultrasonics—reported in Gleanings in Bee Culture, September issue; Scientists of the Curtiss-Wright Corporation are extremely interested in conducting further experiments in this intriguing field. Towards this end they would like one large honey producer, or blender marketing organization, in New Jersey, or near-by State, to collaborate. Interested parties can contact Mr. Walter T. Johnson at Curtiss-Wright Corporation, Industrial & Scientific Products Division, P. O. Box 270., Caldwell, New Jersey or phone Caldwell 6-7200 Extension 10., to arrange matters.

Eastern Apicultural Society Meeting. There will be a meeting of all the delegates of the Eastern Apicultural Society, at 10 A.M., Nov. 12th, in Room "I" at the McAlpine Hotel, Broadway at 34th Street, New York City. The site and program of the 1956 meeting of the group will be discussed.

The **Montana State Beekeepers' Association** will hold its 35th annual meeting at the Masonic Temple, Livingston, Montana on December 2 and 3. The theme of the Convention is Sanitation and Honey Marketing. The honey to be served at restaurants and cafes will be donated by Montana beekeepers. President Lester W. Hall is arranging an interesting program for all beemen.—Mrs. O. R. Burdett, Sec.-Treas.

The **Westchester County Beekeepers' Association** will hold its next meeting at the Odd Fellows Hall, 20 Lockwood Avenue, New Rochelle, N. Y., on Sunday November 20th at 2:30 P.M. At this meeting we will have our Annual Honey Show. Each member may have an entry in the following classes: Light, amber and dark extracted honey in one pound jars only; chunk and comb honey; best wax in round or square form. Ribbons will be awarded for 1st, 2nd, and 3rd prizes in each class, and special prizes will also be awarded.

This year we plan to have children take part in this contest. It was decided that each member who has children, nieces, and nephews, or grandchildren are invited to enter in the poster contest. They can draw or make pictures on anything pertaining to bees or honey. Awards will also be given to the children.

Let's all come out and make this an enjoyable afternoon. Visitors are also welcomed. Refreshments will be served.—Mrs. Alfred Roth, Publicity.

The **Nebraska State Beekeepers' meeting** will be held on Thursday and Friday, November 17 and 18, at the Plant Industry Building on the Agricultural College Campus, Lincoln, Nebraska. There will be a question and answer session for beginners and a display of supplies and equipment. The 18th is general meeting and everyone is welcome. In the evening there will be entertainment, banquet and crowning of the State Honey Queen.—Mrs. De Etta Bellin, Sec.

The annual convention of the **Manitoba Beekeeper' Association** will be held at the Airport Hotel in Winnipeg on Thursday and Friday, November 17 and 18.—D. R. Robertson, Sec.

The annual convention of the **Oregon State Beekeepers' Association** will be held November 29th and 30th on the campus of Oregon State College at Corvallis, Oregon. The meetings will be held in the Food Technology Auditorium. A program of interest to all beekeepers is being planned. We invite anyone who is interested in beekeeping to attend.—Oliver Petty, Sec.

On October 4th, near Aberdeen, South Dakota, **Irving O. Jones,** aged 49, died from the accidental discharge of a shot gun.

He had gone alone early in the morning to a bee yard to kill skunks that had been molesting the bees. There had been a rain. He slipped from the running board of his truck and the charge struck him in the chest. He was found dead later in the morning when his helper came to the bee yard.

Mr. and Mrs. Jones have made many

friends at Harlan, Iowa, and Aberdeen, South Dakota where they have operated bees during the last five years. They came north from the Montgomery, Alabama area where he had kept bees.—L. D. Taylor.

Mr. S. A. Deschenes, Assistant Provincial Apiarist of Quebec, Canada, and one of the original members of the Canadian Beekeepers' Council, died recently. So reports BEE WISE of British Columbia, Canada. "Sam", as Deschenes was affectionately known, will be missed by his many friends in Canada and the United States.

Mr. H. A. Ross, Poseyville, Indiana, a life-long beekeeper and breeder of queen bees passed on recently. He had many friends and will be missed.

The **California Beekeepers' Association** meeting will be held November 29, 30, and December 1 in The Anderson Hotel, 955 Monterey St., San Luis Obispo, California.—Earl G. Barnes, Sec.-Treas.

New **Honey Cook Book.** Not since the publication of the excellent honey recipes by the American Honey Institute has a general cookbook on honey appeared. On October 24th a new publication called, "The Honey Cookbook" by Juliette Elkon, and containing more than 250 honey recipes for relishes, c e r e a l s, puddings, candies, punches, and sherbets, was released by Alfred A. Knopf, Inc. Single copies can be had for $3.00 from Knopf at 501 Madison Avenue, New York City, 22, N. Y.

The **Southern States Beekeepers' Federation** meeting in Asheville, N. C., October 10 to 12, was one of the best ever held, with 18 states represented. Various segments of our industry were ably represented on the program by outstanding speakers.

Harriett M. Grace, Director of American Honey Institute, emphasized the importance of promoting honey sales. The beekeeper must let people know he has honey for sale and repetition is the key to good advertising. **Harold J. Clay,** of Washington, brought needed information on the honey price support program. **Robert Banker,** Secretary-Treasurer of the American Beekeeping Federation, stressed the importance of assisting the hobbyist beekeeper as our industry needs new personnel. He says our industry may be on the threshold of a new era. **G. H. Cale, Jr.,** of Hamilton, Ill. explained the intricacies of breeding a hybrid bee which he believes is needed. **Geo. H. Rea,** veteran beekeeper and extension worker, very ably presided as toastmaster at the banquet. Officers elected for 1956 are W. A. Stephen, President, Harry York, Vice president, and Carl M. Teasley, Sec'y.-Treas. Next year's meeting will be held in Chattanooga, Tenn.

The annual convention of the **American Beekeeping Federation** will be held in Biloxi, Mississippi, on January 23 to 26, 1956. Information concerning the program will appear in future issues.

The **Midwestern Beekeepers' Association** will meet at the I.O.O.F. Hall, 812 Westport Road, Kansas City, Mo., on the 13th of November at 2:30 p.m. A general discussion on "Planting of Honey Plants," nomination of 1956 officers, drawing prize and refreshments.—Mrs. William Brite, Sec'y.

The annual meeting of the **Utah State Honey Producers' Association** will be held on Friday, December 2nd, at the Temple Square Hotel in Salt Lake City. An outstanding program is being planned with local and out-of-state speakers.—M. Levin, Campus Box 80, Logan, Utah.

The annual meeting of the **Southern Tier Beekeepers' Association** of New York, will be held at 8:00 P.M. November 8th in the Farm Bureau office, City Court House, Binghamton, New York. Everyone is welcome. A lunch will be served. The speaker will be announced later.—H. B. Webb, Sec.

Butter and honey help a Texas meat firm to sell more frankfurters, so we learn from The Wall Street Journal for Thursday, Sept. 20, 1955. When this man began flavoring the frankfurters with butter and honey the sales tripled in a short time.

XUM

The "Hewitt" Collection at the Litchfield Historical Society Museum, Litchfield, Conn.

PHILEMON J. HEWITT, JR., Litchfield, Conn.

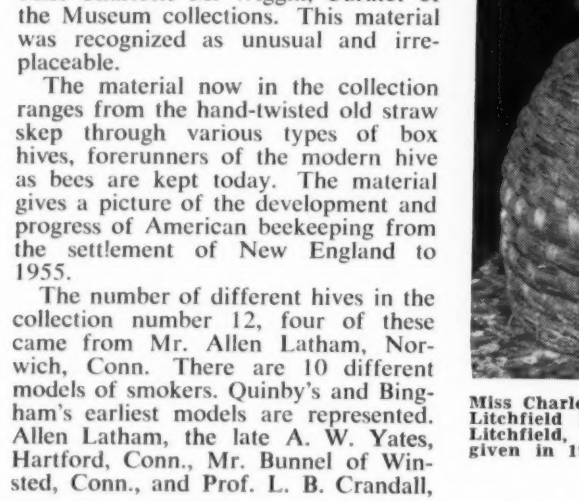
THE MAJOR part of the "Hewitt" Collection was begun in June of 1953. A complete set of a modern hive was procured, also at the same place, several types of hives (Danzenbaker and Heddon), were found.

There were already in the Museum an old straw skep bound with willow or split elm withes, an old pin cushion with a picture of a skep (hand painted), a seamstress' cake of beeswax and an early model of Quinby's smoker. When the first new material came into the Museum, encouragement was given by Miss Charlotte M. Wiggin, Curator of the Museum collections. This material was recognized as unusual and irreplaceable.

The material now in the collection ranges from the hand-twisted old straw skep through various types of box hives, forerunners of the modern hive as bees are kept today. The material gives a picture of the development and progress of American beekeeping from the settlement of New England to 1955.

The number of different hives in the collection number 12, four of these came from Mr. Allen Latham, Norwich, Conn. There are 10 different models of smokers. Quinby's and Bingham's earliest models are represented. Allen Latham, the late A. W. Yates, Hartford, Conn., Mr. Bunnel of Winsted, Conn., and Prof. L. B. Crandall,

Miss Charlotte M. Wiggin, Curator of the Litchfield Historical Society Museum, Litchfield, Conn. The straw skep was given in 1913 and represents beekeeping before 1800.



Philemon J. Hewitt, Jr., Litchfield, Conn., examining a plaster of Paris comb foundation plate to make comb foundation, made and sold by Oliver Foster, 1881, Colorado. On the right is the Maine State Bee Hive patented June 7, 1859. Name on hive is R. S. Torrey, Bangor, Me. The front part of the hive is the broodnest. The turret has six tin tubes in it to ventilate the hive. The boxes as pictured are five comb boxes. The item on top of the hive is a "Miller Bee Paddle". The item on the left is a Manum Swarm catcher, invented and used by A. E. Manum, Bristol, Vt., 1888.—Ref. 1888 ed. ABC.

Storrs, Conn., are represented in the queen rearing items group. Some books, pamphlets, and pictures are also from Prof. Crandall.

The high point of interest to many of the visitors to the Museum is the live bees on exhibit in the observation hive and an old box hive. These are situated on one window sill and have free access to the outside. The observation hive is maintained throughout the year. To help explain the life of the bee, there is a complete set of mounted pictures that had been published in Life Magazine.

The first step in the preparation of the material was to dust and clean off all wax and propolis. Then a coat of white shellac was brushed on. The second coat is a clear transparent plastic. It is believed that this coating of items will help resist wear in handling and give protection if it is ever stored in a damp place. All items in the collection have an accession number and cards giving information as to their uses and who made them and the dates used. All items are listed in a card file.

One result of having this collection is that the children and adult attendence has increased. The children are greatly interested in the live bees. The young folks are receiving much information on honeybees. This collection is believed to be the only one in Connecticut. Most of the material has been collected in Litchfield County and the state of Connecticut. Several items are from Nebraska and Pennsylvania. The collecting and research to identify various items has been very interesting.

The Year in South Africa

T. H. G. FARNDEN, Pietermaritzburg, Natal, S. Africa

THIS HAS been a dull year in many respects, with little honey coming in at the season when the biggest flow is normally expected. During a good year Natal beekeepers reckon to extract three times each year, and yet with the most productive season partly through, many beemen have not yet reaped their first crop. Migratory beekeepers have perhaps felt the pinch more than most, for against the costly business of transporting the hives to areas where fruit is grown they have found that their colonies have gathered in barely sufficient nectar with which to maintain themselves.

They say that the failure of the honey crop is due to the lack of rain at the right time last year when the fruit was ripening, which has resulted in pollen without the necessary amount of nectar for the purpose of honey production. This year rains are plentiful, so that if the above assumption is correct South African beekeepers may expect to reap a bumper crop in the 1956 season.

This country has an abundance of weeds and wild flowers which might save the situation as far as this season is concerned, and bee farmers who are dependent upon honey sales for a living may yet find that they will be able to fulfill their standing orders without having to purchase from areas where supplies are more plentiful.

But of the bees themselves—more than ever do they continue to fulfill their primary function of the pollination of plant life in their never-ending search for the few precious drops of nectar.

There has been no noticeable increase in the numbers of parasites despite the fact that colonies on the whole are necessarily smaller because of reduced feeding facilities.

One problem which occupies migratory beekeepers in this country at the present time is that of educating the fruit farmer regarding the importance of the bee to the success of their own farming ventures. What is required is closer cooperation between them, for it is often found in actual practice that the fruit farmer, and even Government Departments, will spray trees as the blossoms open without having first warned the beekeeper of his intentions.

Nevertheless, the future of South African beekeeping is a bright one with the increasing number of gum plantations springing up in areas suited to their growth to meet the existing timber shortage. More and more fruit trees, deciduous and citrus, are being planted out for home and export markets. With this there has been a noticeable increase in the number of beekeepers, especially of the backyard variety, which we hope will continue.

XUM

Buy and Sell

Only responsible advertisers and honest advertisements will be admitted to these columns. References required from new advertisers not known to us. Rate: 18c per counted word, each insertion. Each initial, each word in names and addresses, the shortest word such as "a" and the longest word possible for the advertiser to use, as well as any number (regardless of how many figures in it), count as one word. Copy should be in by the 10th of the month preceding publication.

HONEY FOR SALE

WE BUY AND SELL all varieties of honey. Any quantity. Write us for best prices obtainable. The Hubbard Apiaries, Onsted, Michigan.

IOWA honey, one can or truck loads. Russell D. Smalley, Beaver, Iowa.

CLOVER extracted honey in sixties. Abram Brubaker, Lancaster, Pa., Rt. 2.

Michigan's finest raspberry, basswood, clover comb honey, in 4 x 5 window cartoned sections. Extra Fancy, $7.50; Fancy, $6.50; No. 1, $5.50; No. 2, $4.50 case. E. Z. Quick Way B Farms, Boyne Falls, Mich.

PURE COUNTRY SORGHUM, 18c lb., blended, 14c; pure white clover honey, 20c lb., all in new sixties. Lose Brothers, 206 E. Jefferson. Louisville, Ky.

TRY SMITH'S Fancy comb and extracted honey. Smith Apiaries, Clayville, N. Y.

EXTRACTED HONEY, pound or ton. Also comb. Roy Auxter, Tucker Rd., Fremont, Ohio.

HONEY AND WAX WANTED

BEEKEEPERS TAKE NOTICE—We can not guarantee honey buyers' financial responsibility, and advise all beekeepers to sell for cash only or on C.O.D. terms except where the buyer has thoroughly established his credit with the seller.

CASH for all types extracted honey. Send sample and best price. Buckeye Honey Co., 3930 No. High St., Columbus 14, Ohio.

CASH for Beeswax. Write as to quantity and we will quote price. Muench-Kreuzer Candle Co., Inc., Syracuse, N. Y.

HONEY WANTED — All grades and varieties. Highest cash prices paid. Mail samples. State quantity. HAMILTON & COMPANY, 2613 South Yates Ave., Los Angeles 22, California.

WRITE FOR Shipping tags and quotations on rendered beeswax. We buy from one pound up and if you have over 25 pounds let us work it into foundation for you at a 25 per cent saving. Walter T. Kelley Co., Clarkson, Kentucky.

HONEY WANTED, all grades in 60's. Mail samples, advise quantity, best price. A. I. Root Company of Syracuse, 1112-14 E Erie Blvd., Syracuse, N. Y.

WANTED — White extracted or comb honey. Send sample. Millersport Honey Company, Millersport, Ohio.

WANTED—White clover honey, carload or truckload. Send sample and lowest price. Cloverdale Honey Co., Fredonia, N.Y.

WANTED—Aster or stick weed honey, any amount. Will pay good price. Send sample. Robt. Lane, Greeneville, Tenn.

BEST CASH Deal for your honey (any grade) and beeswax. Alexander Company, 819 Reynolds Road, Toledo, Ohio.

BEESWAX WANTED — Highest prices paid in cash or trade for bee supplies. The A. I. Root Co., Medina, Ohio, Council Bluffs, Iowa, San Antonio, Texas.

WANTED—All grades of extracted honey. Send sample and price. Deer Creek Honey Farms, London, Ohio.

WANTED—Honey in 60's. Send sample and price. Lloyd E. Allen, Tipton, Mich.

WANTED—Buckwheat and some clover honey. Eastern Food Products, 115 Division Ave., Brooklyn, New York.

HONEY WANTED—Highest Cash Prices. All grades, advise quantity. Mail samples to: J. Grossman & Co., 12 Carlaw Ave., Toronto, Ontario, Canada.

WANTED, chunk comb and extracted honey. Mail sample and prices. Stoller Honey Farms, Latty, Ohio.

WANTED all grades of extracted, also 1500 cases or less of cut comb honey. Honeymoon Products Co., 39 E. Henry St., Box 85, River Rouge 18, Mich.

WANTED TO BUY: Several hundred boxes (10 frames each) chunk comb honey. Cal T. Albritton, 1839 S. Monroe, Tallahassee, Fla.

WANTED — More well ripened comb honey from bee trees. S. MacIntyre, Hayter, Alberta.

FOR SALE

WRITE FOR CATALOG — Quality Bee Supplies at factory prices. Prompt shipment. Satisfaction guaranteed. The Hubbard Apiaries, Manufacturers of Beekeepers' Supplies and Comb Foundation. Onsted, Michigan.

THE BIGGEST BEE SUPPLY Catalog published (64 pages) free for the asking. Listing many items not found in other Catalogs. No agents—buy direct and save 20%. WALTER T. KELLEY CO., CLARKSON, KENTUCKY.

FOR SALE — New heart cypress 10-frame bottom boards. KD., 10 or more, $1.00 each; 50 or more, 90 cents each; 100 or more, 85 cents each. One nailed up sample postpaid, $1.25. Fred L. Poole, Elizabethtown, Rt. 2, Box 67, No. Car.

COMB FOUNDATION PLANT OF THE EAST—that's WAX WORKERS, 1330 Slaterville Road, ITHACA, NEW YORK.

FOR SALE — 8-frame Root equipment for 700-colony apiary. Write for details to E. H. Wadleigh, Monte Vista, Colo.

QUEENBEE PAINTING OUTFITS, $1.50 postpaid. Southwick Apiaries, Waban, Massachusetts.

FOR SALE: Old Taylor Honey Company honey packing business. See display ad page 702.

FOR SALE — Junior Brand Capping Melter. Ralph Oswald, Rt. 5, Tiffin, Ohio.

FOR SALE—200 10-frame comb honey supers. Mrs. Homer Ross, Rt. 1, Poseyville, Ind.

BEES AND QUEENS FOR SALE

We use all possible care in accepting advertisements but we cannot be held responsible in case disease occurs among bees sold or if dissatisfaction occurs. We suggest that prospective buyers ask for a certificate of inspection as a matter of precaution.

CAUCASIAN queens, balance season, 1 queen, $1.00; 25 or more 75 cents each. Lewis & Tillery Bee Co., Greenville. Ala.

GOLDEN ITALIAN bees and queens. Real yellow and very gentle. Select untested, 1 to 25, $1.00; 25 up, 90c each. Carolina Bee Farm, Graham, N. C.

BEES AND QUEENS for 1956 Starline and our regular stock. Shipment will start in January. Alamance Bee Company, LaBelle, Fla.

FOR SALE — 60 colonies of bees, 10-frame strong colonies, 1955 inspected. Frank Lucas, R. R. 1, Knightstown, Ind.

FOR SALE. Ten colonies in good shape. Can provide disease free 1955 inspection certificate. Contact Mr. and Mrs. C. Wilczenski, 5359 East 124th and Granger, Garfield Heights 25, Ohio.

LEASE OR SELL, cash, 500 colonies. John Yanik, 16036 Edmore, Detroit 5, Mich.

FOR SALE—1000 hives of bees in Iowa and South Dakota. Will sell all or part like rent. Heavy winter stores. 1955 inspection certificates. Extra good 10-frame lock corner 4½-stories each. See L. D. Taylor, Harlan, Iowa, or write to see the owner, O. L. Taylor, 621 East Ramsey, Banning, California.

SEEDS

HONEY PLANTS our specialty. Catalog on request. Pellett Gardens, Atlantic, Iowa.

MISCELLANEOUS

ROYAL JELLY. 30 capsules $1.50. Capsul contains Royal Jelly, 10 mg., Vitamin B, 5 mg., Calcium Pantothenate, 5 mg. Eight-ounce jar honey with 320 mg. Royal Jelly $2.00 or $18.00 per dozen. Prairie View Honey Company, 12303 12th Street, Detroit 6, Michigan.

"Adventures in Beekeeping." Illustrated. $2.00. Robert Oglesby, R. R. 1, Middletown, Ohio.

VALUABLE INFORMATION on keeping bees contented and working. Read my book on "HOW TO ADD A SECOND QUEEN AND WHY." It discusses a new theory on the real cause of swarming, and my system of control. Price $4.00. Apply to W. F. Perschbacher, 9620 107A Ave. Edmonton, Alta. Canada.

WANTED—Four-frame or larger extractor. Noble D. Whitacre. Martinsburg, West Virginia.

HONEY WANTED
Carloads and less than carloads. Mail sample and best prices in all grades.
C. W. AEPPLER COMPANY
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QUEENS
Italians Caucasians
No more queens this season.
Thank you kindly.
MITCHELL'S APIARIES
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ITALIAN
Package Bees and Queens
Jackson Apiaries
Box 58 Funston, Ga.

CAUCASIANS
CARNIOLANS

Season 1955 closed. We want to thank our many customers for their patience during the hardest season to produce queens in our experience. Freeze in March and April over South, retarded queen rearing six weeks, followed by drouth in summer causing more delay. Kind Providence permitting, I will return to Florida with better breeder queens and increased equipment. We promise our greatest effort for early queens, March 1956. Booking orders now.

W. D. REAMS
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After Nov. 15, LaBelle, Fla., Box 87

BETTER BRED QUEENS
Three Banded Italians
Thank you for business you gave us this season. Booking orders for 1956.
Calvert Apiaries, Calvert, Ala.

HONEY LABELS
Improved designs, embodying color, balance, simplicity, and distinction. Please send for free samples & prices.
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Booking orders now. Over 30 years a shipper. Send for Free Circulars.

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J. E. WING & SONS
42 Years Continuous Service
Italian Package Bees and Queens
Our Specialty
Knights Landing, Calif.

JOHN DAVIS QUEENS
We ship until November 1 and fall is the right time to requeen. Order now and be sure. $1.00 each, any number.

LITTLE'S APIARIES
Shelbyville, Box 122, Tenn.

Answers to Picture Quiz, page 665

1. **Mrs. Harriett M. Grace**, the very capable Director of the American Honey Institute. Responsible for the development of "National Honey Week" and "National Honey for Breakfast Week", two excellent honey promotional themes.
2. **Dr. Eva Crane**. Editor of the BEE WORLD, internationally renown journal of beekeeping science. Beekeepers will remember Dr. Crane from her U.S. beekeeping tour in 1953. We have received word that Dr. Crane is considering another U.S. trip, but this time the trip will emphasize southern beekeeping areas.
3. **Mrs. William Wallanches**. This lady beekeeper holds the distinction of being the only woman president of an American beekeeping association. Her very active organization is the famous Cook-DuPage Beekeepers' Association of Chicago, Ill., hosts of the 1955 American Beekeeping Federation convention.
3. **Erika Barth**, wife of Gleanings Editor, Walter Barth, is the translator and Editor of the monthly column in Gleanings called, "News from Foreign Lands". Mrs. Barth has become well known through her attendance at bee meetings.

RESPONSIBLE PARTY wishes to purchase or lease northern outfit of approximately 1500 colonies or smaller outfit capable of expansion. Give complete information as to help, number of colonies, trucks, locations, disease, honey house. Advise price and terms on a five-year basis. Box 1155, Gleanings, Medina, Ohio.

MAGAZINES

Know interesting facts concerning the bees of India through the INDIAN BEE JOURNAL, published in English by the Bhupen Apiaries (Himalayas), Ramgarrh Dist. Naini Tal, U. P. India, or available through them. Subs. Rs9/ or 15 shillings or $2.25 yearly. Sample copy post free for Rs$^1/_2$/, or s2/6, or 40 cents (International Money Order). Payment in mint postage stamps of your country accepted.

Archiv fur Bienenkunde, International journal for Bee Culture and beekeeping economics. Founded in the fall of 1918. Oldest economic bee journal in the world. Praised again and again for its decades of independent leadership through many endorsements and advice as a valuable source also for the practice. Classic. Yearly DM 5.50. Any aspiring beekeeping friend will receive a sample copy. Biene-Verglag, Giebelbach, Lindau, Germany.

BEE WORLD, the international journal of the Bee Research Association, published monthly, contains the latest research reports on bees and beekeeping. With Apicultural Abstracts it costs $3.00 per annum. Apicultural Abstracts only $1.75 per annum from the Hon. Subscription Secretary, Bee Research Association, 10 Barnett Wood Lane, ASHTEAD, Surrey, England.

Read the South African Bee Journal. Published every two months. Subscription 7/6 per year to the Treasurer, P. O. Box 3306, Cape Town, South Africa.

INTERESTED in Angora Goats? Read the Sheep and Goat Raiser, Hotel Cactus, San Angelo, Texas, the only ranch magazine published serving the Angora Goat industry. Subscription $1.00, sample copy, fifteen cents.

THE LADIES SAFETY HIVE

(Contined from page 657)

The fact that foundation, excluders, smokers, and the theory of bee-space were totally unknown would make for most of us the handling of bees impossible in 1834. Bagster and others of the early 1800's are to be given credit, for the invention of hives such as these and a desire to improve equipment led to the discovery of many of our useful implements and tools which help us in the apiary.

U. S. Savings Bonds come in all sizes . . . . . and grow bigger every year.

HONEY WANTED All Grades, Send Samples Advise Quantity and Price
"Everything for the Beekeeper"
HONEY SALES COMPANY 2817 No. 2nd St. Minneapolis 11, Minn.

ALL OUT OF QUEENS

We are completely sold out for this SEASON. Thank you for the nice business you have favored us with. It has been a pleasure to serve you, and we trust you have had a satisfactory year. And we expect to do business with you in 1956. We extend you a special invitation to visit us on your way to Biloxi, Mississippi, for the Annual Convention of The American Beekeeping Federation, in January.

JENSEN'S APIARIES MACON, MISS. U.S.A.

DADANT'S STARLINE HYBRIDS Reg. U.S. Pat. Off.

"THANKS, FRIENDS"

We extend to all our friends our sincere thanks for their large volume of business sent to us this year. 1956 will come with conditions much improved. Order your packages and queens early to avoid disappointment.

BESSONET BEE COMPANY Donaldsonville, La.

MOUNTAIN GRAY CAUCASIANS
Personally raised. Gentle, good workers; winter well. Queens $1.00 each.
ELBERT S. CHILDS
201 Garden Ave. Knoxville 18, Tenn.

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Gleanings in Bee Culture
Medina, Ohio

THE AUSTRALASIAN BEEKEEPER

The senior beekeeping journal of the Southern Hemisphere provides a complete cover of all beekeeping topics in one of the world's largest honey producing countries. Published monthly by Pender Bros. Pty. Ltd. Box 20, P. O., Maitland, 3N, N.S.W., Australia. Subscription by Bank Draft or International M. O. 18/-(approx. $2.15) per year, post free. Sample copy free on request.

THE BEE BEE TREE

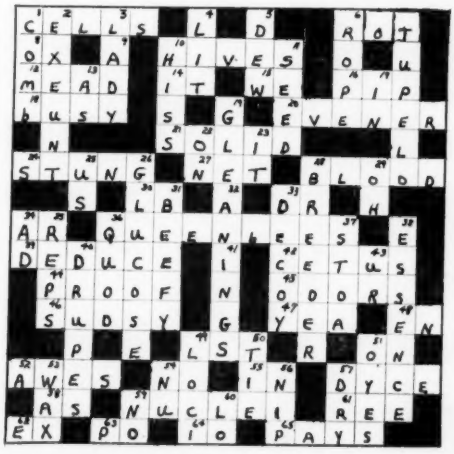
(Continued from page 660)

Kentucky Coffee tree, and give off a faint aromatic odor when crushed. Seeds are small, black, borne in pods, and are attractive to some species of birds. Bark of the tree is smooth, dark, and in the mature trees resembles in texture, but not in color, that of the beech.

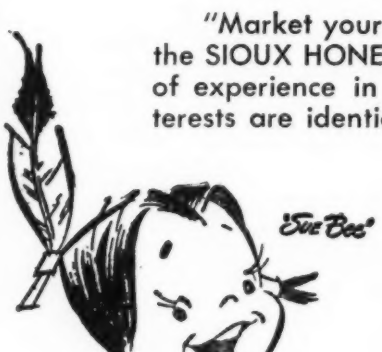
Most of the facts here given are based on the personal observation of the writer during the past few years. Until there is a concentrated planting of these trees in some area where interested beekeepers can check results, it is useless to estimate either the quality of the honey it will produce, or its quantity. A number of seeds and seedlings have been distributed among beekeepers within the past year and it is hoped some plantings may result which will provide the answer.

I believe that more can be done to restore our lost bee pasturage by the planting of suitable nectar yielding trees than by any other method. The Bee Bee tree, considering the ease with which it can be propagated, its rapid growth and hardihood, may take a leading place in any such program. It is the plants that produce the honey and without suitable nectar-bearing plants the bees are helpless.

Answers to Crossword Puzzle, page 678



SUE BEE SAYS:



"Market your HONEY and BEESWAX through the SIOUX HONEY ASSOCIATION, with 30 years of experience in serving beekeepers, whose interests are identical to yours.

"New SUE BEE FOUNDATION is second to none and can be made up on an economical exchange basis. Whether you need foundation or not we are always in the market for your beeswax. Our rendering facilities can handle all kinds of wax and comb rendering. Give us the opportunity to show you satisfactory returns in pounds of wax obtained from your combs and slumgum at very nominal cost.

"We carry a full line of Foundation, Containers, Extracting Equipment, Woodenware, Carbolic Acid, Cyanogas, Smokers, Gloves, Veils, Hive Tools, Paint, and many other items. Contact us for all of your needs.

"The finest Laboratory in the Middle West is maintained by this Association in Sioux City. We will test your honey, beeswax, or suspected bee diseased combs free. Write or phone us.

"A membership in the SIOUX HONEY ASSOCIATION is valuable to every beekeeper, large or small, and your inquiry about membership will be welcome."

SIOUX HONEY ASSOCIATION

SIOUX CITY, IOWA

LIMA, OHIO: ROGERS, TEXAS: TACOMA, WASHINGTON

ANAHEIM, CALIFORNIA

MEN AND HONEYBEES IN VIRGINIA

(Continued from page 661)

was heavily wooded at that time. Tulip trees, linden or basswood, and sourwood must have figured largely in the honey flows of that early time.

As the Virginia Colony expanded and finally became the great Old Dominion, beekeeping continued to grow as an important part of agriculture. It was, however, a long span of about 300 years from the time of the early colonial records about beekeeping in Virginia to the disastrous epidemic of European foulbrood (then known as blackbrood) that almost wiped out beekeeping as an industry in the eastern United States. In 1908, in common with authorities and beekeepers of other states and at Washington, J. L. Phillips, State Entomologist at Richmond, Virginia, the Virginia Agricultural Experiment Station at Blacksburg, Virginia, and the Bureau of Entomology of the United States Department of Agriculture at Washington, D. C., entered into a cooperative arrangement to save the beekeeping industry of Virginia. Mr. J. C. C. Price was appointed to take charge. He worked several months sending out circulars, making personal visits, and accumulating considerable information.

Relating early beekeeping in Virginia to the prevailing conditions in Virginia (about 1908) Price wrote: "The Indians had no equivalents in their language for bee, honey, or wax. Scarcely, however, had clearings been made in the wilderness when settlers brought bees from England. Belknop wrote that the first person who brought a hive of bees to this country was given a grant of land. Perhaps there is no other industry in the state of the same importance and with opportunities so great for development, which is so disorganized, so disconnected and suffering from lack of careful attention and better methods as is the beekeeping business. There is no state organization in which beekeepers meet to exchange views; there is no system of inspection by which apiaries may be brought to a higher standard."

This and other beekeeping data were prepared by Mr. Price for a bulletin but never published. He left to accept another position. Price's manuscript is, however, preserved and is a valuable asset in Virginia beekeeping records.

We want to THANK YOU for the nice business you have given us this season.

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THE HONEY MAZE

(Continued from page 664)

partially eliminated by allowing the honey to run down the side of the container or by use of a goose-neck filler. While the practice of some bottlers of allowing the heated honey to cool before bottling does reduce the tendency of a foam layer, there is danger of contamination with dextrose crystals and yeasts which may later cause granulation followed by fermentation.

As we have indicated previously, the care of honey is a four-fold problem. The prevention of or control of granulation, along with avoiding serious discoloration and loss of flavor and aroma, will be covered in future articles.

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THAT BURNING QUESTION

(Continued from page 667)

tional when the beekeeper could not or would not follow instructions in the eradication of AFB by chemotherapy.

But before a widespread educational campaign can be put into effect, I would think it highly expedient that all who are to enforce bee disease regulations and who would supervise the application of disease control methods should first use the methods of chemotherapy that have proven successful in the eradication of AFB from infected colonies. Here is one phase of beekeeping that follows the old adage of "seeing is believing". Once a beekeeper or an administrative official actually eradicates AFB from the combs of an infected colony, he will be convinced that it can be made to work. It is obvious that if treatments of infected colonies are not complete or are lacking in thoroughness, failures may result. Successful beekeepers will continue to inspect their colonies for bee diseases and only those who have disease or who have their colonies located in areas where AFB has been known to be present in the past, will need to use the principles of chemotherapy.

It would be far better for all to get behind the educational campaign to eliminate AFB by chemotherapy—and by burning when necessary—than to deny demonstrable results.

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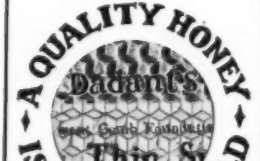

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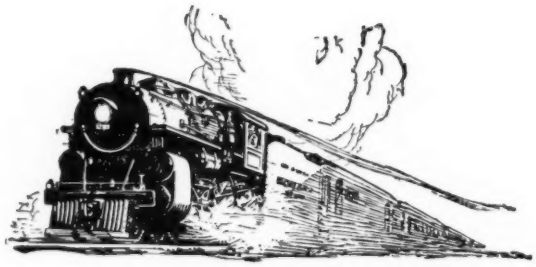

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